LINDENIA

ICONOGRAPHY

OF ORCHIDS

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CONDUCTED BY

J. Linden, Lucien Linden, Em. Rodigas
and R. A. Rolfe.

II.

1891.

Mo. Bot. Garden,
1895.

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PRINTED BY EUG. VANDERHAEGHEN.

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THE COLOURED PORTRAITS BY

P. DE PANNEMAEKER, A. GOOSSENS and G. SEVEREYNS.

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Published by LUCIEN LINDEN

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MORMODES ROLFEANUM L. LIND.

A. Goossens pinx. *F. De Pannemaeker chrom.*

PL. CCLXXXIX.

MORMODES ROLFEANUM L. LIND.

Mr R. A. ROLFE'S MORMODES.

MORMODES. Vide *Lindenia*, Engl. ed., vol. I, p. 23.

Mormodes Rolfeanum. Pseudobulbis fusiformi-oblongis, foliis lanceolatis acutis 37,5 cm. longis, scapo erecto paucifloro foliis longiore, floribus magnis, bracteis ovatis acutis, pedicellis 5 cm. longis, sepalis patentibus oblongo-lanceolatis acutis 4-4,5 cm. longis, petalis elliptico-oblongis acutis sepalis latioribus, labello valde carnoso rigido late elliptico apiculato basi late unguiculato 2,5 cm. lato, columna arcuata rostrata rigida 2,5 cm. longa.

Patria Peruvia.

Mormodes Rolfeanum L. LIND., *supra*.

This very distinct species has large flowers which cannot be exactly compared with any other, though it presents some resemblance to *Mormodes igneum* LINDL., which, however, has smaller and more numerous flowers, with a crimson-scarlet lip of a different shape. In dimensions, the flowers of *M. Rolfeanum* approach those of *M. luxatum* LINDL., but their colour and the shape of the lip are wholly different in this species. The sepals and petals are suffused light brown on a light green ground and with darker green stripes. The face of the very fleshy rigid lip is brownish-crimson in colour, also the back of the column, the front of this organ and the back of the lip being greenish-yellow.

M. Rolfeanum is the third new species which has made its appearance in the houses of L'HORTICULTURE INTERNATIONALE during less than a year, which fact is sufficiently curious to be worthy of mention. Our novelty has not such brilliant and lively colours as many of its congeners, but it is distinguished by its very large size, and bespeaks a place in the collections of those amateurs who do not sacrifice solely to the fashions of the hour. We may note that it exhales a penetrating perfume, closely resembling that of anise.

We have particular pleasure in dedicating this new species to our distinguished collaborator Mr. R. A. ROLFE, whose writings, already considerable, are known to all who are occupied with Orchids, both in England and on the Continent.

As regards culture, *M. Rolfeanum* is in no respect different from the rest of the genus. The species of Mormodes should be cultivated in the warm house, and require almost the same treatment as Catasetums. A sunny situation suits them best, nevertheless they should be shaded when the sun is too hot. After flowering, all the species loose their leaves, when the amount of water given

should be considerably reduced for a period of several weeks, while the plants are in a state of semi-repose.

When the new growth appears, the amount of water should be gradually increased, in order to restore the plant to full activity.

L. L.



LAELIA GRANDIS LINDL. var. TENEBROSA HORT.

A. Goossens pinx. *P. De Pannemaeker chrom.*

PL. CCXC.

LAELIA GRANDIS LINDL. var. TENEBROSA HORT.

THE LARGE LAELIA, DARK VARIETY.

LAELIA. Vide *Lindenia,* Engl. ed. I, p. 41.

Laelia grandis. Pseudobulbis clavatis compressis monophyllis, foliis lineari-oblongis obtusis coriaceis, spathis ancipitibus elongatis, pedunculis bene exsertis 3-5 floris, floribus magnis, sepalis oblongo-lanceolatis acutis undulatis subcontortis flavis, petalis multo latioribus acutis crispo-undulatis flavis, labello trilobo, lobis lateralibus circa columnam convolutis, lobo medio rotundo crispo-undulato, colore albo venis omnibus pulchre purpureis, columna brevi trigona.

Laelia grandis LINDL. in *Paxt. Fl. Gard.*, I (1850), p. 60, fig. 38. — *Flore des Serres,* VII, p. 238, cum fig. — RCHB. F. in *Allg. Gartenz.*, XXIII (1855), p. 321. — BATEM. in *Gard. Chron.*, 1864, p. 1202. — *Bot. Mag.*, t. 5553. — *Flore des Serres*, t. 2473. — *Gartenflora,* t. 698. — *Orchid Album,* III, t. 123.

Bletia grandis RCHB. F., in *Walp. Ann.,* VI, p. 424.

Var. tenebrosa. Sepalis petalisque cupreis, labello purpureo disco atropurpureo.

Var. tenebrosa HORT.

Laelia grandis was originally introduced to European gardens in 1849, when it was sent from the neighbourhood of Bahia, by M. PINEL to his fellow countryman, M. MOREL, at Paris. It flowered during May of the following year, when a sketch of the plant and a single flower were sent by M. MOREL to Dr LINDLEY, who described it in *Paxton's Flower Garden*, under the name it now bears. A figure of the flower was also given, but it was evidently in a withered condition when drawn, for the segments are represented in a very unnatural position. LINDLEY describes the flowers as large, nankeen-yellow, with a white lip, washed with rose at base inside, veined with purple, and with a pure white border. He speaks of its affinity being with *L. Perrinii* and *L. majalis*, which is hardly correct, for *L. xanthina*, on the one hand, and *L. purpurata* on the other, are clearly its nearest neighbours. The latter though very different in colour has many points of resemblance, both in habit and structure.

In 1855 a plant flowered in the collection of Consul SCHILLER, of Hamburg, but the species remained extremely rare until 1864, when it was again introduced by Messrs HUGH LOW & Co, of Clapton, from Bahia. About the same time, some plants were sent by Mr. WILLIAMS from the same locality to the Royal Gardens, Kew, one of which flowered there in 1865, and was figured in the *Botanical Magazine*, this being the first coloured figure of the species published.

Until quite recently very little variation in the species has been observed, but now the very distinct variety figured in the accompanying plate has appeared, and is represented in several collections. My first acquaintance with it dates from May, 1889, when a flower from the collection of H. TATE, Esq., junr, of Allerton Beeches, near Liverpool, was sent by the Liverpool Horticultural Co.

About a year later Mr A. H. Grimsditch, of Clayton square, Liverpool, sent a flower with pseudobulb and leaf, saying it was discovered by his principal, Mr Travassos. And now it has appeared with Messrs Linden, L'Horticulture Internationale, Parc Leopold, Brussels. The same form (though not under this name) was also exhibited by Lord Rothschild, of Tring Park, and E. Gotto, Esq., of Hampstead, at a meeting of the Royal Horticultural Society on June 23 rd. last, the former of whom received a First-class Certificate for it.

It is certainly a most distinct and beautiful variety, agreeing well with the typical form in habit, but presenting a variety of differences in the flowers. The segments are flatter, less undulate, and of a decided copper-bronze tint, while the lip is wholly purple, somewhat lighter near the margin and darker in the throat; in some cases with a dark blotch on each side of the disc.

I believe there is somewhere in print a note about this particular variety, but have failed to find it.

It will doubtless succeed perfectly under similar treatment to *L. purpurata*, but, like the typical form of *L. grandis*, should be placed at the warmest end of the house, as it is said to prefer a little more heat, like *Cattleya superba*, *C. Aclandiae*, and *C. Schilleriana*.

R. A. Rolfe.



DENDROBIUM LEUCOLOPHOTUM RCHB. f.

. Goossens fres.

P. De Pannemaeker ch

PL. CCXCI.

DENDROBIUM LEUCOLOPHOTUM RCHB. F.

THE WHITE-CRESTED DENDROBIUM.

DENDROBIUM. Vide *Lindenia,* Engl. ed., vol. I, p. 37.

Dendrobium leucolophotum. Aff. *D. barbatulo* LINDL., caule valido cylindrato attenuato polyphyllo; foliis oblongo-ligulatis acuminatis membranaceis; racemo elongato laxifloro, mento acutangulo parvo; sepalis ligulatis acutis; petalis oblongis acutis; labello trifido, laciniis lateralibus triangulis extrorsum obtusatis, lacinia mediana porrecta ligulata acuta, parte superiore supra nervos lamellis minutis ramulosis asperula; columna minuta dorso apiculata.

Dendrobium leucolophotum RCHB. F. in *Gard. Chron.*, 1882, pars 2, p. 552; VEITCH *Man. Orch. Pl.*, pars 3, p. 53.

Dendrobium leucolophotum was originally described by REICHENBACH, in 1882, from specimens sent by Curtis from some part of the Malayan Archipelago to Messrs JAMES VEITCH & SONS, of Chelsea, during the previous year. The precise locality is said to be unknown. Prof. REICHENBACH speaks of it as follows: — "Very near *D. barbatulum* LINDL., but with a much stronger pseudobulb, a lax inflorescence exceeding a foot in length and much larger flowers of a fine white colour, apparently with yellowish buds. The acute chin is small, and the sepals ligulate acute, and far larger than the sepals. Lip trifid as in *D. cuspidatum* WALL., with triangular side laciniae rounded outside, and a linear ligulate acute long anterior lacinia. All the nerves of the superior half are covered with minute lobed lamellae, just as in *D. barbatulum*, whose conspicuous middle callus is absolutely unrepresented."

The species appears to be extremely rare, but there is a raceme in the Kew Herbarium, received from Signor Commendatore H. J. Ross, of Florence, Italy.

And now it has been re-introduced, a raceme and the complete drawing of the plant having been forwarded by Messrs LINDEN, L'HORTICULTURE INTERNATIONALE, Parc Leopold, Brussels, with the information that it came from Northern Queensland. It is quite identical with the plant mentioned above. As the precise locality of the original plant is unknown, it seems quite possible that it may have come from the far east, and if so, the two localities are not so far apart as they may at first appear to be. It should also be remembered that *D. Phalaenopsis* occurs in Queensland, New Guinea, and Timor-laut, and *D. leucolophotum* may occur over an equally wide area. We know so little of the distribution of Orchids in this interesting region!

Although the plant has been very well compared with *D. barbatulum*, there are some decided affinities with *D. Phalaenopsis*. The long scapes and the gibbous

projection underneath the spur, as well as the general shape of the flowers, are all characteristic of this group.

The application of the specific name is somewhat difficult to understand, and its author does not explain it. From his description it would appear to be in allusion to the minute white hairs upon the disc of the lip, which may be called the crest. It has been suggested as derived from λευκὸς (leucos), white, and λόφος (lophos)*, a tuft of long hairs, " as the mane of a horse ", and " evidently intended to refer to the long one-sided racemes of white flowers ", but I am inclined to think that λόφος here means " a crest ". In any case, the name is a somewhat fanciful one.

As regards cultivation, it will be found to succeed under the same treatment as is given to *D. Phalaenopsis*, *D. bigibbum* and *D. superbiens*, with or near some of which I suspect it grows in its native habitat.

R. A. Rolfe.

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* More correctly from the adjective λοφωτὸς, " tufted " or " crested ". [Ed.]



CATTLEYA BICOLOR Lindl.

PL. CCXCII.

CATTLEYA BICOLOR LINDL.

THE TWO-COLOURED CATTLEYA.

CATTLEYA. Vide *Lindenia*, engl. ed., vol. I, p. 7.

Cattleya bicolor LINDL. *Bot. Reg.*, XXII (1836), sub. t. 1919. — ID., *Sert. Orch.*, t. 5, fig. 1. — ID., *Bot. Reg.*, XXIV, *Misc.* p. 80. — ID., XXX, sub. t. 5. — *Bot. Mag.*, t. 4909. — WARN. & WILL. *Orchid Album*, VII, t. 318.

Epidendrum bicolor RCHB. F. in *Walp. Ann.* VI, p. 34.

Cattleya bicolor was originally described by LINDLEY, in 1836, in the pages of the *Botanical Register*, from a drawing made by DESCOURTILZ. From the *Sertum Orchidacearum*, where this drawing was reproduced, we learn that it was found by DESCOURTILZ, on the trunks and branches of the largest trees, in the neighbourhood of Bom Jesus de Bananal, in the province of Minas Geraes. In 1837 living plants were introduced to England by Messrs LODDIGES, of Hackney, in whose nursery it flowered during the following year. It also flowered in the nursery of Mr PONTEY of Plymouth, in the same year, as LINDLEY afterwards recorded; and our colleague Mr ROLFE informs us that this specimen is preserved in LINDLEY's Herbarium at Kew. We have thus evidence of its cultivation in Europe for a period of over half a century. The species is also known to grow in the mountains near Rio de Janeiro, and it may have been from this habitat that these original plants were introduced.

The specific name given to this species applies equally well to several others, yet it expresses clearly the impression produced at a first glance, for its flowers show such distinct colours, having the segments clear brown, and the lip of a bright amethyst violet. These colours harmonise perfectly with that of the foliage, and the species being very floriferous, like the majority of others of this section, and producing its flowers in groups of three to eight and even ten together, we may rank it among the most valuable species for decorative purposes.

We should also add that its flowers are produced in the autumn, which still further increases its value.

Cattleya bicolor has the pseudobulbs slender, cylindrical, about eighteen inches high, and bearing a pair of oblong leaves at the apex. It resembles *C. guttata*, much in habit, but its pseudobulbs are smaller. As regards culture it appears not to differ from this species, nor yet from the great majority of Cattleyas. A well lighted and ventilated house suits them perfectly; the moisture

in the atmosphere should also be abundant, and the temperature should range from 10° to 14° Centigrade (50° to 58° Fahrenheit) in winter, and from 18° to 20° C. (65° to 70° F.) in summer.

During the period of growth the plants require copious waterings. After the flowering period, they should be allowed to undergo a period of repose for some little time, during which the waterings should be reduced to that strictly necessary, and afterwards, as they increase progressively in activety, the amount of water at the roots should be gradually augmented, until the pseudobulbs have arrived at maturity. At this epoch — we speak of September to October — care should be taken to let the plants have as much sun as possible, so that the growths of the year should be thoroughly ripened. Lastly, they should have a good rest, from the end of November to about the end of February.

L. L.

American Edition PART. VIII. September 1891.

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CORYANTHES LEUCOCORYS ROLFE

PL. CCXCIII

CORYANTHES LEUCOCORYS ROLFE.

THE WHITE-HELMETED CORYANTHES.

CORYANTHES. Sepala libera, patentissima, magna, irregulariter undulato-flexuosa, posticum lateralibus brevius latiusque. Petala sepalis multo minora, erecta, torta. Labellum carnosum, ungue longo patente cum basi columnae continuum, lobi laterales in medio ungue in appendicem poculiformem connati, medius magnus, galeatus. Columna longiuscula, teres, apice inflexo-clavata vel breviter bialata, apoda, basi biauriculata vel bicornuta; clinandrium parum prominens. Anthera terminalis, opercularis, incumbens, convexa, carnosa, bilocularis; pollinia 2, cerea, anguste oblonga, sulcata, inappendiculata, anthera dehiscente stipiti lineari affixa, glandula parva.

Herbae epiphyticae, caulibus abbreviatis, mox in pseudobulbos carnosos apice bifoliatos incrassatis. Folia ampla, nervosa, subplicata. Scapi ad latera pseudobulborum reflexi, simplices. Racemi laxe pauciflori, floribus maximis breviter pedicellatis.

Species circa 10, Americae tropicae incolae.

Coryanthes HOOK. *Bot. Mag.*, LVIII (1831), t. 3102. — BENTH et HOOK. F. *Gen. Plant.*, III, p. 549.

Coryanthes leucocorys. Pseudobulbi oblongo-ovoidei, 1 1/2-2 1/4 poll. longi. Folia lanceolata, acuta, 10 poll. longa. Pedunculus 1-2 florus. Bracteae late ovatae, subobtusae, 1-1 1/2 poll. longae. Ovarium pedicellatum 4 1/4 poll. longum. Sepalum posticum suborbiculare 1 3/4 poll. longum. Sepala lateralia oblique falcato-oblonga, subobtusa, 4 poll. longa, 2 poll. lata, torta. Petala falcata, lineari-oblonga, obtusa, 2 1/2 poll. longa, 7 lin. lata. Labelli unguis subarcuata, 1 1/2 poll. longa; hypochilium profunde concavum, 1 3/4 poll. longum, 1 1/2 poll. latum, apice obtusissimum; mesochilium 3/4 poll. longum, transverse corrugatum; epichilium 2 poll. latum, 1 3/4 poll. altum apice trilobum, lobo medio late oblongo obtuso 7 lin. longo, lobis lateralibus ovato-triangularibus falcatis acutis. Columna 2 poll. longa.

Coryanthes leucocorys ROLFE, *supra*.

Patria Peruvia.

Various shades of greenish-yellow and red have repeated themselves with tolerable regularity in the different species of Coryanthes which have successively been discovered, but now we have something decidedly novel and very handsome to record. It is a species with an ivory-white hood, which contrasts strikingly with the rose-coloured, bucket-shaped part of the lip. The accompanying illustration gives an excellent idea of the character of the plant. It is a native of Peru, whence it was introduced by Messrs LINDEN, L'HORTICULTURE INTERNATIONALE, Parc Leopold, Brussels, and flowered in their collection during June of the present year. The flower whence this description was taken reached me in quite fresh condition, and on opening the box I was much struck with its beauty and the charming contrast of its delicate colours. Nothing of the kind has been seen before, so far as I can ascertain, and I therefore propose to call it *C. leucocorys*, in allusion to its white, helmet-shaped hood.

It is somewhat difficult to speak of the affinities of so distinct a plant, especially as some of the species are very imperfectly known, but it can well be compared with *C. macrantha* and *C. Bungerothii*. The strong transverse plates on

the mesochile are very similar in character, but the hood is shallower, and its apex, though it overlaps the edge of the bucket, and thus approaches *C. Bungerothii* somewhat, is not prolonged in front as in that species, a character well shown at plate 244 of the *Lindenia*.

The structure of a genus so complex as is the present one is not easily described in few words, nor can all the details be clearly indicated by the most faithful portrait. We may therefore append the following particulars of the present species : —

The dorsal sepal is suborbicular in outline, with the apex reflexed, 1 3/4 inches in diameter, striped and suffused with light brownish-purple on a pale yellowish-green ground. The lateral sepals are oblique, falcate-oblong, subobtuse, 2 inches broad, by more than twice as long, and curiously contorted, lightest yellowish-green, striped with light brownish-purple. The petals are falcate, linear-oblong, obtuse, 2 1/2 inches long by 7 lines broad, white, suffused and obscurely striped in the middle with light purple. The stalk of the lip is somewhat curved, 1 1/2 inches long, ivory-white. The hood is oblique, almost of the shape of one valve of a cockle-shell, 1 3/4 inches long, by 1 1/2 broad, and about 1 inch deep, the apex very obtuse, and extending beyond the mesochile, so as to overlap the edge of the bucket; ivory-white, with a V- shaped band of appressed satiny hairs, extending from the stalk on either side. The basal angles of the hood gradually curve into the mesochile, which is profoundly sulcate behind, only 3/4 of an inch long, and with about three transverse fleshy plates on either side (the basal pair very strong), and several blunt teeth in front; the whole ivory-white. The bucket is 2 inches in diameter, nearly 1 1/2 inches from front to back, and 1 3/4 inches deep; the sides large and rounded at the margin. It is suffused and marbled with a beautiful light rosy-purple on a white ground, which, however, is nearly obliterated, especially on the sides; inside the colour is much paler, except near the margin. The apical teeth, as usual, are very fleshy; the front one oblong, very obtuse, and a little constricted near the apex; the side ones broadly triangular, with recurved tooth at apex. Just behind these is a strong fleshy transverse plate, over two lines high, and with three obscure teeth at apex, which prevents the fluid secreted by the two glands at the base of the column from escaping from the flat-bottomed bucket. The ovary is 4 1/4 inches long, irregularly blotched with lurid purple on a pale ground, and the greenish-white column 2 inches long, in structure much resembling other species of the genus.

R. A. Rolfe.



DENDROBIUM SUPERBIENS RCHB. F.

PL. CCXCIV.

DENDROBIUM SUPERBIENS RCHB. F.

THE SUPERB DENDROBIUM.

DENDROBIUM. Vide *Lindenia,* Engl. ed., vol. I, p. 37.

Dendrobium superbiens. Caule elato crasso; foliis latis lineari-oblongis acutis crassis, dimidiam longitudinem prope latis, vaginis purpureo-striatis; racemis elongatis multifloris; mento breviter extinctiformi antice medio obscure gibbo; sepalis ligulatis triangulis apiculatis, lateralibus subcurvis; petalis subspatulatis obtusis bene longioribus; labello trilobo, lobis lateralibus extrorsis semiovatis, lobo medio oblongo obtuso lato, hinc retusiusculo, nervis principalibus quinis, nervillis lateralibus pluribus conspicuis asperulis, carinis supra nervos principales a basi in basin laciniae mediae, ibi semi-oblongo lamellato-elevatis, dorso serrulatis, dentibus uniseriatis.

Dendrobium superbiens RCHB. F. in *Gard. Chron.*, 1876, pt. 2, p. 516. — ID. 1878, pt. 1, pp. 40, 49, fig. 9, et p. 652. — *Fl. Mag.*, n. s. t., 294. — *Reichenbachia,* ser. 1, vol. I, p. 87, t. 39. — FITZGERALD *Austral. Orch.*, pt. 1. — VEITCH *Man. Orch. Pl.*, pt. 3, p. 76. — WARN. & WILL. *Orchid Album,* VII, t. 312.

D. Goldiei RCHB. F. in *Gard. Chron.*, 1878, pt. 1, p. 652. — *The Garden,* XIV (1878), p. 244, t. 145.

This beautiful Australian Dendrobium was originally introduced to Europe in 1876, when it was sent to Messrs JAMES VEITCH & SONS, of Chelsea, by the late Sir WILLIAM MACARTHUR, of Cambden Park, near Sydney, New South Wales, and was described by Prof. REICHENBACH in the autumn of that year. It is a native of the Cape York Peninsula, North Queensland, and some small adjacent islands in Torres Straits.

It is an exceedingly handsome plant, for in a wild state the stems are said to reach a height of three to four feet, and as these have been seen with the scars of four inflorescences, and the racemes themselves with as many as twelve flowers, the effect of a fine clump in flower can well be imagined. Indeed, the plate in *Fitzgerald's Australian Orchids*, which was " taken from a plant grown in the greenhouse of the late Sir WILLIAM MACARTHUR, " who was the original introducer of the species, shows as many as fifteen flowers on a pendulous raceme over a foot and a half long, and we are told that " a plant in the possession of Captain BLOOMFIELD continued in flower for thirteen months continuously, producing at least twelve spikes at a time, the individual flowers lasting three months. "

It is allied to *D. bigibbum* LINDL., on the one hand, and *D. undulatum*, R. BR., on the other, and indeed has been suggested to be a natural hybrid between them, though I see no ground for the latter supposition. From *D. bigibbum* it is readily distinguished by its narrower and more undulate sepals and petals, as well as by the different details of the lip and spur, and by the different habit.

D. Goldiei, described with evident reluctance by REICHENBACH, does not appear to be more than a rather distinct local variety, though its differences are

said to be constant in character. It was imported by Mr. B. S. Williams through his collector Goldie, and flowered in 1878.

These tropical Australian Dendrobiums should receive plenty of light, heat and moisture during the growing season, so as to induce them to produce strong growths, after which they should be kept cooler and drier, so as to give them a good rest, and thoroughly mature the pseudobulbs.

R. A. Rolfe.



MASDEVALLIA CORIACEA LINDL.

A. Goossens pinx. P. De Pannemaeker chrom.

PL. CCXCV.

MASDEVALLIA CORIACEA LINDL.

THE CORIACEOUS MASDEVALLIA.

MASDEVALLIA. Sepala basi v. altius in tubum connata, in acumen v. caudem patentem producta. Petala multo minora, saepius angusta. Labellum parvum, polymorphum, cum pede columnae articulatum. Columna erecta, superne v. apice solo marginata v. alata, basi in pedem brevem producta; clinandrium obliquum, nunc breve truncatum, nunc latum concavum v. fere cucullatum, cum alis columnae continuum, margine varie dentatum. Anthera terminalis v. intra clinandrium affixa, opercularis, incumbens, convexa v. cucullata, 1-locularis; pollinia 2, cerea, ovoidea, inappendiculata, libera v. apice visco parco cohaerentia.

Herbae epiphyticae v. terrestres, caespitosae v. rhizomate repente, non pseudobulbosae. Caules 1-foliati, infra folium brevissimi v. vix ulli, vaginis 1-2 scariosis inclusi. Folium coriaceum, basi in petiolum longum basi non vaginantem contractum. Pedunculus scapum simulans, basi cum petiolo in vagina scariosa inclusus, ipse 1-3-vaginatus, 1-florus v. laxe racemoso-puriflorus. Flores mediocres v. majusculi, saepe pulchre colorati v. varie picti.

Species ultra 150, montes Americae tropicae a Peruvia usque ad Mexicum incolae, in Brasilia et Guiana perpaucae.

Masdevallia RUIZ et PAV. *Fl. Peruv. et Chil. Prodr.* (1794), p. 122, t. 27. — BENTH et HOOK F. *Gen. Plant.*, III, p. 492.

Masdevallia coriacea. Dense caespitosa; foliis lineari-oblongis, apice minute tridentatis, basi attenuatis, coriaceis; pedunculum folio aequante seu superante, vagina in medio; bractea cucullata ovario pedicellato breviori; mento obtusangulo, cupula haud longiore; sepalo summo a basi sublatiori attenuato caudato; sepalis inferioribus ad mediam partem connatis triangulis, apice caudatis; petalis ligulatis apiculatis carina una in medio prosiliente; labello oblongo apice obtuso, ibi dense papilloso-verrucoso, carina una utrinque basin versus, columna clavata angulata, androclinio minute serrulato.

Masdevallia coriacea LINDL. in *Ann. & Mag. Nat. Hist.*, ser. 1, XV (1845), p. 257. — ID., *Orch. Linden.*, p. 4. — RCHB. F. in *Gard. Chron.*, 1872, p. 1067. — KARST. *Fl. Colomb.* II, p. 103, t. 153.

Masdevallia coriacea was originally described in 1845, from dried specimens collected by HARTWEG three years previously, on the Eastern Cordillera of New Granada, in the province of Bogota, at 8,000 to 9,000 feet elevation. M. LINDEN also collected it in the forests of Fusagasuga, in the same province, at an altitude of 7,200 feet. HOLTON, WEIR and PURDIE also obtained dried specimens in the same district, but is was not imported alive until 1871, when it was sent by BRUCHMÜLLER to Messrs HUGH LOW & C°, of Clapton. In the following year it flowered with Messrs JAMES VEITCH & SONS, of Chelsea, as recorded by REICHENBACH in the pages of the *Gardeners' Chronicle* at that time. At first it was distributed into gardens as *M. Bruchmülleri*, being thought to be a new species, but it was never described, and the name was superseded as soon as it was authentically identified with LINDLEY's *M. coriacea*.

The specific name was given in allusion of the leathery texture of the leaves.

The specimen here figured is one which flowered in the collection of Messrs LINDEN, L'HORTICULTURE INTERNATIONALE, Parc Leopold, Brussels, a

short time ago. It is somewhat darker in the ground colour of the sepals than usual, but there does not appear to be any other essential difference in the flower.

Masdevallia coriacea may be taken as the type of a considerable section of the genus, the section Coriaceæ, characterised by its distinctly coriaceous perianth, varying from shortly and broadly to narrowly tubular, the tails of the sepals usually short and rigid, and the peduncles usually 1-flowered. Its exact limits are rather difficult to define, because a few species are somewhat anomalous, and its relation to other sections is not yet clearly defined. It includes, however, a considerable number of cultivated species, of which may be mentioned the following : *M. calura* Rchb. f., *M. campyloglossa* Rchb. f., *M. civilis* Rchb. f., *M. coriacea* Lindl., *M. demissa* Rchb. f., *M. elephanticeps* Rchb. f., *M. Gargantua* Rchb. f., *M. leontoglossa* Rchb. f., *M. Mooreana* Rchb. f., *M. pachyantha* Rchb. f., *M. peristeria* Rchb. f., *M. platyglossa* Rchb. f., *M. porcelliceps* Rchb. f., *M. Rolfeana* Kraenzlin, *M. torta* Rchb. f., *M. velifera* Rchb. f., and a few others ; also several species which have not hitherto appeared in cultivation.

The requirements of these high alpine Orchids are now pretty well understood. They succeed best in a house with an east or north-east aspect, and the coolest possible treatment during hot weather, by shading and keeping the air, as fully charged with moisture as possible, and generally keeping them under what is known as cool treatment.

R. A. Rolfe.



DIACRIUM BICORNUTUM BENTH.

PL. CCXCVI.

DIACRIUM BICORNUTUM BENTH.

THE TWO-HORNED DIACRIUM.

DIACRIUM. Sepala subaequalia, libera, patentia, crassiuscula, petaloidea. Petala sepalis subsimilia. Labellum a basi columnae patens, sepalis subaequilongum; lobi laterales patentes v. reflexi, medius longius; discus inter lobos laterales elevatus; supra bicornutus, cornubus subtus excavatis. Columna brevis, lata, leviter incurva, in alas angustas crassiusculas expansa; clinandrium obliquum, obtusum. Anthera terminalis, opercularis, incumbens, semiglobosa, 2-locularis, loculis septo longitudinali 2-locellatis; pollinia 4, cerea, lato-ovata, aequalia, a latere parallele compressa, 1-seriata, in quoque loculo appendicula granuloso-viscosa lineari a basi marginibus applicita connexa.

Herbae epiphyticae, caule carnoso in pseudobulbum elongatum incrassato. Folia pauca, ad apicem conferta, rigide coriacea, subcarnosa, cum vagina brevi articulata. Pedunculus terminalis, simplex, vaginis paleaceis distantibus arcte appressis. Flores speciosi, laxe racemosi, breviter pedicellati. Bracteae parvae.

Species descriptae 4, Guianae Americae centralis et Mexici incolae.

Diacrium BENTH. in *Journ. Linn. Soc.*, XVIII (1881), p. 312. — BENTH. et HOOK. F. *Gen. Plant.*, III, p. 526.

Diacrium bicornutum. Pseudobulbis subfusiformibus apice 3-4-foliatis, foliis lineari-oblongis obtusis coriaceis, sepalis ovato-lanceolatis acutis, petalis conformibus latioribus concavis, labello libero trilobo, lobo medio elongato lanceolato acuto, lobis lateralibus oblongis obtusis, disco supra basi alte bicornuto, columna clavata.

Diacrium bicornutum, BENTH. in *Journ. Linn. Soc.*, XVIII (1881), p. 312. — BENTH. et HOOK. F., *Gen. Plant.*, III, p. 526. — ROLFE in *Gard. Chron.*, 1887, pt. 1, pp. 44, 45, fig. 11. — VEITCH *Man. Orch. Pl.*, pt. 6. p. 79, cum xylogr.

Epidendrum bicornutum HOOK. *Bot. Mag.*, LXI (1834), t. 3332. — PAXT. *Mag. Bot.*, V, p. 245, cum. ic. — LINDL. *Fol. Orch. Epidendr.*, p. 27. — RCHB. F. in *Walp. Ann.*, VI, p. 345. — *Jenn. Orch.*, t. 21. — WARN. et WILL. *Orchid Album*, IV, t. 157.

This handsome Orchid was originally introduced by Messrs SHEPHERD, of Liverpool, in 1833, from Trinidad, where it grows on rocks or small islets close to the sea. It flowered for the first time in Europe in the collection of EARL FITZWILLIAM, at Wentworth, in April of the following year. It was originally described by Sir WILLIAM HOOKER, in the *Botanical Magazine*, from the same source, as *Epidendrum bicornutum*. LINDLEY referred it, with two other allied species, to a distinct section of the genus, which he called *Diacrium*, and this was raised to the rank of a genus by BENTHAM, on the ground that the peculiar bicornute labellum, which is neither adnate to, nor parallel with the column, gives the flower a very different aspect from that of the true species of *Epidendrum*, and cannot be included among them without doing violence to the generic characters.

In a note in the *Kew Herbarium* Dr BRADFORD remarks: " This most beautiful species is found in the greatest abundance on the coast and on the adjacent islands of the Boca de Moros, at Trinidad. The rocks and stumps of decaying trees are in some places covered with it. It flowers chiefly in the early part of the year, from January to April. "

In 1837 it was met with by SCHOMBURGK at the River Berbice, in British

Guiana, where it grows on trees by the river's banks; and recently Im Thurn has collected it at the Corentyne River, and Jenman at the Essequebo River, in the same country. It also grows in the island of Tobago, whence fine herbarium specimens have been sent by Meyer.

In the wild state the hollow stems of this species are tenanted by small ants, which find ingress through a cleft at the base, which is invariably present in the new growths, even under cultivation.

For its successful cultivation, a high temperature and moist atmosphere are necessary, especially while the plant is growing. It is somewhat difficult to establish, unless the pseudobulbs are thoroughly sound, for they are apt to decay from within, and if cracked during transmission, as is said to be frequently the case, they never get well established.

The plant described as *Epidendrum indivisum* Bradford (Griseb. *Fl. Brit. W. Ind.*, p. 614), which has recently flowered at Kew, appears to be only an abnormal cleistogamous variety of this species. It is a native of Trinidad.

The following are the other species of the genus : —

D. bidentatum Hemsl. *Biol. Centr. Amer.*, III, p. 221. *Epidendrum bidentatum* Lindl., *Gen. et Sp. Orch.*, p. 98. — Native of Mexico.

D. bigibberosum Hemsl. *l. c.*, p. 222. *Epidendrum bigibberosum* Rchb. f., in *Walp. Ann.*, VI, p. 346. — Native of Guatemala, according to Reichenbach; formerly cultivated by Consul Schiller, at Hamburgh.

D. bilamellatum Hemsl. *l. c.*, p. 222. *Epidendrum bilamellatum* Rchb. f., in *Walp. Ann.*, VI, p. 345. — Native of Panama and Caraccas.

These three species are at present very imperfectly known, and their exact relation to *E. bicornutum* somewhat doubtful. The first is only known to me by a sketch of a single flower in Lindley's Herbarium. The second is said to have been re-introduced into British collections from the valley of the Magdalena, where it occurs in the damp jungle that lines the river side, and to be simply a miniature form of the type as regards its flowers. The third I only know by description. There are however unnamed specimens at Kew from Nicaragua, Venezuela, and Colombia, which probably belong in part to the above. The genus will require careful re-examination when more material accumulates.

R. A. Rolfe.

American Edition PART. IX. October 1891.

LINDENIA

ICONOGRAPHY

OF ORCHIDS

CONDUCTED BY

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THE COLOURED PORTRAITS BY

P. DE PANNEMAEKER, A. GOOSSENS and G. SEVEREYNS.

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DENDROBIUM × AINSWORTHI T. MOORE

PL. CCXCVII.

DENDROBIUM × AINSWORTHII T. MOORE.

Dr AINSWORTH'S DENDROBIUM.

DENDROBIUM. Vide *Lindenia*, Engl. ed., vol. I, p. 37.

Dendrobium × *Ainsworthii*. Hybridum inter *Dendrobium aureum* et *D. nobile* productum. Pseudobulbier ecti, multifoliati. Folia lineari-oblonga, acuta. Racemi axillares, breves, 2-3 flori. Sepala oblonga, obtusa. Petala elliptico-oblonga, obtusa. Labellum ovato-ellipticum obtusum, basi convolutum.

Dendrobium × *Ainsworthii* T. MOORE in *Gard. Chron.*, 1874, pars 1, p. 443, fig. 93, 94. — *Floral Mag.*, n. s. 1876, t. 196. — *Florist and Pomol.*, 1874, p. 114, cum xyl. — *Gard. Chron.*, 1877, pars 1, p. 751. — ID., pars 2, pp. 166, 167, fig. 30-32. — ID., 1881, pars 2, p. 624, fig. 125. — *Gartenfl.*, 1887, p. 548, fig. 135. — ID., 1890, pp. 176, 177, fig. 42. — WARN. *Sel. Orch.*, ser. 3, t. 30. — WILLIAMS *Orch. Gr. Man.*, ed. 6, p. 268, cum xyl. — VEITCH *Man. Orch. Pl.*, pars 3, p. 86, cum. xyl.

Var. roseum T. MOORE, in *Gard. Chron.*, 1877, pars 1, p. 665. — WARN. & WILL. *Orchid Album*, I, t. 20. — *Gard. Chron.*, 1877, pars 1, p. 750. — ID., pars 2, p. 166.

Hybrid Dendrobiums now play a very important part in the embellishment of our Orchid collections, and are likely to do so in an increased degree in the near future; their beauty and floriferousness, and the ease with which they can be grown, all tending to make them very popular. The subject of the present plate appeared as long ago as 1874, and although not the first raised, it was the first to be described and figured. *D.* × *Dominianum*, which preceded it, was not described until 1878, though it had been in cultivation for some years previous.

Dendrobium × *Ainsworthii* was raised by Mr MITCHELL, in the collection of Dr AINSWORTH, of Broughton, near Manchester, between *D. aureum* and *D. nobile*, the former having since been stated to be the seed parent, though this point was not recorded in the original description. The seed was sown in March 1867, on a block of wood, and in February 1874 the first flowers expanded. On the 18 th. of that month it was exhibited before the Royal Horticultural Society, when it was deservedly awarded a First-class Certificate. Its appearance at that time may be seen from a figure in the *Gardeners' Chronicle* (1874, pt. I, p. 443, fig. 94) which was prepared from a photograph, and Mr T. MOORE in describing it remarked, " it is in truth a very distinct novelty, and will make a very attractive plant. "

In habit it closely resembles *D. nobile*, while the shape of the flowers is rather nearer to *D. aureum;* their colour is white, with a large feathered blotch of rich amaranth or claret-purple on the disc.

The variety *roseum*, which is said to have appeared in the same batch of seedlings as the original form, has the sepals and petals tinted with light rose, and the white of the lip replaced by bright rose. A plant which was exhibited by

Mr Mitchell at one of the Manchester shows, in May 1877, is said to have been two feet across, and to have been smothered with hundreds of its beautiful flowers.

The same cross has been raised upon more than one occasion. Plants are said to have appeared in the Fairfield Nursery, near Manchester, about the same time as those in Dr Ainsworth's collection; and others have appeared at a later date. *D.* × *splendidissimum*, perhaps the finest hybrid which has yet appeared, has the same parentage, though the flowers have rather more of the *D. nobile* character. They are exceptionally large and brilliantly coloured. It was raised by Messrs James Veitch & Sons, of Chelsea. *D.* × *Leechianum*, which was raised in the collection of Mr W. Leech, of Fallowfield, near Manchester, is from the reversed cross, but is smaller than the preceding, which it otherwise much resembles.

D. × *Ainsworthii* has itself been used for hybridising purposes. Crossed with the pollen of *D. Findlayanum*, in the collection of Sir Trevor Lawrence, Bart., M. P., of Burford Lodge, Dorking, it has yielded the handsome secondary hybrid, *D.* × *chrysodiscus;* while the reverse cross has yielded *D.* × *melanodiscus*, in the same collection. These two secondary hybrids are extremely diverse from each other, so much so that their real origin could scarcely have been guessed, had it not been carefully recorded, a proceding which should never be neglected. Another point worthy of mention is that of four plants of *D.* × *chrysodiscus*, no two were alike in their flowers, a circumstance to which secondary hybrids seem especially liable.

R. A. Rolfe.



CATASETUM BARBATUM LINDL. var. SPINOSUM

PL. CCXCVIII.

CATASETUM BARBATUM LINDL. var. SPINOSUM.

THE BEARDED CATASETUM, SPINOSE VARIETY.

CATASETUM. Vide *Lindenia*, Engl. ed., vol. I, p. 15.

Catasetum barbatum. Pseudobulbi fusiformi, cylindracei. Folia oblongo-lanceolata, acuta, basi angustata. Racemi erecti v. arcuati. Flores dimorphi. — ♂. Sepala lanceolata, acuta, lateralia patentia, sepalum posticum erectum. Petala sepalo postico subadpressa, paullo minora. Labellum inferum, oblongum, medio infractum et saccatum, margine in pilis succulentis albis numerosissimis dissoluto, basi supra unicorni. Columna subclavata, apice rostrata, infra medio cirrhis duabus gracilibus cornu labelli amplectentibus. Pollinia 4, per paria sibimet incumbentia, cerea, oblonga, anthera dehiscente stipiti longo loriformi affixa, glandula magna crassa. — ♀. Sepala lanceolato-oblonga, acuta, reflexa. Petala similia. Labellum superum galeatum, crasse carnosum, apiculatum, margine crenulatum. Columna brevissima et crassissima, breviter rostrata, ecirrhosa; anthera imperfecta.

Catasetum barbatum LINDL. *Bot. Reg.*, XXX (1844), *Misc.*, p. 38. — RCHB. F. in *Walp. Ann.*, VI, p. 570. — ROLFE in *Journ. Linn. Soc.*, XXVII, p. 217.

Myanthus barbatus LINDL. *Bot. Reg.*, XXI (1836), t. 1778. — *Bot. Mag.*, t. 3514. — PAXT. *Mag. Bot.*, II, p. 124, cum ic. — KN. & WESTC, *Fl. Cab.*, I, t. 37. — SCHOMB. in *Trans. Linn. Soc.*, XVII, p. 551. t. 29. — DARWIN in *Journ. Linn. Soc.*, VI, p. 153, fig. 2.

Monachanthus viridis SCHOMB. in *Trans. Linn. Soc.*, XVII, p. 551 (pro parte), t. 29. — DARWIN in *Journ. Linn. Soc.*, VI, p. 153, fig. 2 A, *non Lindl.*

Catasetum barbatum var. spinosum. Labellum spinoso-acuminatum.

Var. spinosum ROLFE, supra.

Myanthus spinosus HOOK. *Bot. Mag.*, LXVII (1841), t. 3802.

Catasetum spinosum LINDL. *Bot. Reg.*, XXVI (1840), *Misc.*, p. 65.

This is one of the earliest known Catasetums, for it appeared as long ago as 1836, when it was described and figured by LINDLEY, under the name of *Myanthus barbatus*, in the *Botanical Register*. LINDLEY there observes: "This curious new species is a native of Demerara, near the falls of Wapopekai, on the Massarony river, some hundreds of miles from its mouth, where it was found by Mr JOHN HENCHMAN, growing in the clefts of trees in shady situations. It was first sent us in February last by Mr Low, with whom it first flowered, but almost immediately after we received it from Chatsworth, and from the garden of Mr WILLMORE, of Oldfield, near Birmingham." In the same year it was also figured in the *Botanical Magazine*, from a Demeraran specimen which flowered with M. ALLCARD, of Stratford Green, Essex, in May of that year.

In 1841 a new Myanthus was described in the *Botanical Magazine*, under the name of *M. spinosus*. Its author, Sir WILLIAM HOOKER, remarks that it is one of the few Orchids which rewarded Mr GARDNER's researches in the province of Ceará, in the interior of Brazil. It flowered for the first time at Kew, in February, 1840. It was afterwards reduced as a synonym of *C. barbatum* by Dr LINDLEY, together with his own *C. proboscideum*, another Brazilian plant, with the remark that no

doubt they were mere varieties of the same natural form. The same form appeared with Messrs Linden, L'Horticulture Internationale, Parc Leopold, Brussels, during the present summer, from which the annexed figure was prepared, and as it presents some slight differences from the typical *C. barbatum* it seems best to retain it as a separate variety. The ultimate position of this and a few other described species of the same affinity cannot at present be precisely determined, as some of them were described from very scanty materials. The variety *spinosa*, if such it can be called, differs in very slight characters, and I am not certain whether these are really constant. The apex of the lip terminates in an acuminate, somewhat spine-like point, whence its name is derived, and the sepals and petals have narrower and more numerous transverse bars, in addition to which may be mentioned the different native country.

The male flowers alone are represented in the annexed plate, but it is now well known that the females are sometimes produced from the same pseudobulb, and even on the same raceme. Their very different structure and appearance is now well known, but in former times was an immense puzzle to naturalists. Having been described as belonging to distinct genera their appearance on the same plant excited no small degree of wonder. The females of different species also bear a close resemblance to each other, and at least three of them were confused under the same name, i. e. *Monachanthus viridis*, which was thus thought capable of sporting indiscriminately into both *Catasetum barbatum* and *C. tridentatum*, if not indeed into others, and the idea seemed fast gaining ground that the ordinary conceptions of genera and species could not be applied to *Catasetum*. Even when Darwin pointed out that *Catasetum tridentatum* was a male, and *Monachanthus viridis* a female Orchid, he fell into the error of supposing *Catasetum barbatum* to be a third, or hermaphrodite form of the same species. The history of this confusion may be found in my paper on the " Sexual Forms of Catasetum, " published in the twenty-seventh volume of the *Journal of the Linnean Society*, which has already been mentioned in the pages of the *Lindenia*.

R. A. Rolfe.

CATTLEYA LABIATA AUTUMNALIS

Mr. F. Sander, of St. Albans, about a fortnight ago, announced that the autumn-flowering *Cattleya labiata vera* had been re-introduced, thanks to " his indefatigable enterprise and persistent zeal. "

We may, however, point out that its re-introduction is due to Messrs Linden, L'Horticulture Internationale, Brussels, eighteen months aho, for *Cattleya Warocqueana* has now proved to be a synonym of the celebrated *Cattleya labiata vera*.



LAELIO-CATTLEYA × ARNOLDIANA ROLFE

A. Goossens pinx.

P. De Pannemaeker chr.

PL. CCXCIX.

LAELIO-CATTLEYA × ARNOLDIANA ROLFE.

Mr ARNOLD'S LAELIO-CATTLEYA.

LAELIO-CATTLEYA. Genus artificiale pro hybridis inter *Cattleyam* et *Laeliam* creatum.

Laelio-Cattleya ROLFE in *Journ. Linn. Soc.*, XXIV (1888), p. 168. — ID., in *Gard. Chron.*, 1889, pars 2, p. 78.

Laelio-Cattleya × *Arnoldiana*. Hybrida inter *Laeliam purpuratam* et *Cattleyae labiatae* varietatem producta. Pseudobulbi fusiformes, 6-8 poll. longi, monophylli. Folia lineari-oblonga, 12 poll. longa, 2 1/2 poll. lata. Flores 7 poll. diametro. Sepala anguste lanceolata, patentia. Petala multo latiora, deflexa, margine undulata. Labellum magnum, lobo medio lato expanso crispo-undulato.

Laelio-Cattleya × *Arnoldiana*. ROLFE in *Journ. des Orch.*. II, p. 134.

Laelia × *Arnoldiana* HORT. *Gard. Chron.*, 1891, pars 1, pp. 740, 742. — *Journ. of Hort.*, 1891, pars 1, p. 491, fig. 93.

The magnificent hybrid which is the subject of the present plate was raised in the establishment of Messrs F. SANDER & Co., of St. Albans, from *Laelia purpurata* fertilised with the pollen of one of the varieties of *Cattleya labiata*, though which one has not been recorded. It flowered for the first time during the present year, and was exhibited at a meeting of the Royal Horticultural Society on June 9 th. last, when it was awarded both a First-class Certificate and a Silver-Gilt Flora Medal. The seed was sown in 1881, and thus it has taken ten years to reach the flowering stage.

One of the plants has now passed into the collection of T. Statter, Esq., of Stand Hall, Whitifield, near Manchester, from which the annexed plate has been prepared.

The plant is of vigorous habit, the five pseudobulbs on the one exhibited being from 6 to 8 inches long, narrowly fusiform and somewhat compressed in shape. The leaves are stout, of a bright shining green, and about a foot long by 2 $^{1}/_{2}$ inches in diameter. The flowers, which are of graceful shape and appearance, measure over seven inches across. The sepals are narrowly lanceolate, and of a delicate rosy-purple hue while the much broader petals, which are drooping or recurving at the tips, and beautifully undulate, are of a similar colour, with some slightly darker veins in the centre. The lip is very handsome; the broad expanded part, which is nearly three inches in diameter, is of an intense rich magenta-crimson, with still darker veins, and a paler, very undulate margin; the throat is of a pale golden bronze tint. It is undoubtedly a very handsome plant, and one of the finest yet raised.

Laelia purpurata has been a popular plant with hybridists, and no wonder, for it has participated in the parentage of some of the handsomest hybrids which have yet appeared. There are three other hybrids raised between this species

and *Cattleya labiata*, or its varieties. The first is *Laelio-Cattleya* × *callistoglossa*, which was originally described in 1882. In this case *Cattleya labiata* var. *Warscewiczii*, better known in gardens as *C. gigas*, was the pollen parent, and the resulting hybrid is perhaps unequalled in size and in the gorgeous colouring of the lip. *Laelio-Cattleya* × *bella* appeared in 1884. The old autumn-blooming *Cattleya labiata vera* is said to have been the pollen parent, which is very curious, unless one or the other of the species was in flower out of its normal season, and thus furnished an opportunity for an unusual combination. It is a most handsome hybrid. *Laelio-Cattleya* × *Canhamiana* appeared in 1885, and in this case *Cattleya labiata Mossiae* was one of the parents. These three originally appeared with Messrs James Veitch & Sons, of Chelsea, but the last-named has since been raised in other establishments. All are great horticultural acquisitions.

Respecting the so-called genus *Laelio-Cattleya* perhaps a word may be said. *Cattleya* and *Laelia* form two quite natural groups, with four and eight pollen-masses respectively, but they readily hybridise together, not only under cultivation, but in two or three instances in a wild state. The resulting hybrids strictly speaking do not belong to either genus, but are intermediate in character, having four normally developed pollen-masses and four much smaller, sometimes nearly abortive ones. *Laelio-Cattleya* is thus a kind of artificial genus, founded for the reception of those hybrids which strictly speaking cannot be said to belong to either of the two parent genera.

R. A. Rolfe.



RHYNCHOSTYLIS COELESTIS RCHB. F.

A. Goossens pinx. *P. De Pannemaeker chrom.*

PL. CCC.

RHYNCHOSTYLIS COELESTIS RCHB. F.

THE CELESTIAL RHYNCHOSTYLIS.

RHYNCHOSTYLIS. Sepala subaequilonga, inter se libera, patentia, lateralia postico latiora, pedi columnae affixa. Labellum ad apicem pedis columnae affixum, basi profunde saccatum ; lobi laterales obsoleti, medius supra saccum longe angustatum, apice inflexum, linguiforme v. obovatum. Columna brevis, crassa, semiteres, exalata, basi in pedem producta; clinandrium brevissimum, integrum ; rostellum crassiusculum, antice supra stigma prominens. Anthera terminalis, opercularis, incumbens, semiglobosa, imperfecte bilocularis; pollinia 2, cerea, subglobosa, sulcata v. fere bipartita, inappendiculata, anthera dehiscente stipiti longo filiformi affixa, glandula parva, submembranacea. Capsula oblonga v. subclavata, erostris, erecta v. patens, costis acute prominulis, interdum subalatis.

Herbae epiphyticae, caulibus foliatis non pseudobulbosis. Folia disticha, coriacea v. carnosa, plana, vaginis perdistentibus caulem obtegentibus. Racemi laterales, longi, densiflori, floribus majusculis v. mediocribus breviter pedicellatis. Bracteae parvae.

Species 2, Indiae orientalis et Archipelagi Malayani incolae.

Rhynchostylis BLUME *Bijdr. Fl. Ned. Ind.* (1825), p, 285, t. 49. — BENTH et HOOK. F. *Gen. Plant,* III, p. 574.

Rhynchostylis coelestis. Planta nana, erecta. Folia disticha, recurva, imbricata, linearia, apice inaequaliter bi-vel tridentata, coriacea, canaliculata. Racemus erectus, densiflorus. Sepala elliptico-oblonga, subobtusa. Petala paullo latiora. Labellum obovato-oblongum, auriculis sub columna angulatis minutissimis, lamina cum columna ascendenti subparallela unguiculata antice obtusa vel subemarginata, calcari compresso obtuso curvulo, aristis geminis, inclusis ab apice inferiore antrorsis. Columna brevissima rostrata.

Rhynchostylis coelestis RCHB. F. in *Gard. Chron.,* 1885, pars 1, p. 692, in nota. — VEITCH, *Man. Orch. Pl.,* pars VII, p. 53.

Saccolabium coeleste RCHB. F. in *Gard. Chron.,* 1885, pars 1, p. 692. — WARN. & WILL. *Orchid Album,* VIII, t. 361.

The present charming little plant was originally described by Prof. REICHENBACH, in 1883, in the pages of the *Gardeners' Chronicle*, in the following terms : — " One of the finest surprises I ever enjoyed. Take a short inflorescence of a white flowered *Saccolabium guttatum* (3 to 4 inches long), and imagine the dilated rhombic anterior part of the lip to be of the finest Italian sky-blue, as also to the tips of the sepals and petals, a blue tint on both sides of the centre of the recurved spur, and then add brown anthers with a flush of mauve, and you will be able to form an idea of the lovely thing. It has also a botanic merit of its own. Inside the compressed, blunt, slightly recurved spur rise from the apex of the under-side two falcate subulate bodies against the mouth of the spur. I received this from Sir TREVOR LAWRENCE, who kindly forwarded two fine inflorescences, informing me that the habit of the plant is that of *Saccolabium curvifolium*, LINDL. It is, to my taste at least, a lovely and most desirable thing. "

For several years nothing further appears to have been published respecting it, but about the beginning of 1889 a plate appeared in the *Orchid Album*, whence

we learn that " the species was collected and sent home in quantity by M. Röbbelin, who states that he found it growing upon isolated trees in the rice-fields of Siam, these trees being charred stumps which had survived the fires used in clearing the ground for cultivation, and many of the plants sent home by him bore out his statement, as they were growing upon partially burnt wood. "

Its flowering season is the months of July and August, and the racemes remain in perfection from three to four weeks if kept shaded and free from damp. The peculiar hue of its flowers is sufficient to ensure it a place in every collection where Saccolabiums are grown, for blue Orchids are but rarely met with, and the best varieties of this plant have this colour beautifully developed. As in many other cases this species shows a considerable diversity of colouring, some individuals having the lip and tips of the segments of a pale azure blue, while others are of a much deeper tint. It was awarded a First-class Certificate in July 1888, by the Royal Horticultural Society, when exhibited by Mr B. S. Williams of Upper Holloway.

It should be grown in a basket of sphagnum moss, with plenty of drainage, and suspended near the roof in the warm house, so as to receive plenty of light and air, though it must be shaded from strong sun. Saccolabiums require plenty of heat and moisture, and from its habitat it is clear that the present species forms no exception to the rule. On no occasion should they be allowed to become dry.

Like many of its allies it is rather a slow grower; but it is very floriferous, and as established specimens are said ultimately to become branched, it is sure to repay a little extra attention. Moreover the pleasing hue of its flowers, and the fact of their appearing at a time when Orchids are becoming scarce, are both points in its favour.

Rhynchostylis is a genus closely allied to *Saccolabium*, but differing in having a short foot to the column and in the spur being laterally compressed. There appears to be only one other species known, namely *R. retusa*, of which the plants known in gardens as *Saccolabium Blumei* and *S. guttatum* are varieties.

R. A. Rolfe.

American Edition PART. X. November 1891.

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CYCNOCHES PERUVIANUM ROLFE

A. Goossens pinx. *P. De Pannemacker chron*

PL. CCCI.

CYCNOCHES PERUVIANUM ROLFE.

THE PERUVIAN CYCNOCHES.

CYCNOCHES. Herbae epiphyticae, caulibus plurifoliatis mox longe carnoso-incrassatis v. pseudobulbos oblongos plurivaginatos formantibus. Folia ampla, plicato-venosa. Scapi ad axillas pseudobulborum nutanti v. rarius suberecti, simplices. Flores speciosi v. mediocres, in racemo pauci v. numerosi, dimorphi. — ♂. Sepala subaequalia, libera, patentia v. reflexa, carnosula v. membranacea. Petala sepalis similia v. paullo latiora. Labellum cum basi columnae continuum, patens, carnosum, basi plus minus in unguem contractum, superne lanceolatum v. orbiculatum, integrum v. varie lobatum, cristatum v. fimbriatum. Columna apoda, elongata, tenuis, valde arcuata, exalata, apice incurvo-clavata; clinandrium postice elevatum, acuminatum. Anthera terminalis, opercularis, incumbens, unilocularis; pollinia 2, cerea, globosa, sulcata, inappendiculata, anthera dehiscente stipiti lineari rigidula affixa; glandula magna, crassa, stigma abortivum. — ♀. Sepala subaequalia, libera, patentia, carnosula. Petala sepalis similia v. paullo latiora. Labellum cum basi columnae continuum, patens, carnosum, basi in unguem brevem contractum, superne ovatum v. elliptico-oblongum, integrum, carnosum. Columna apoda, brevis, crassa, valde arcuata, breviter rostrata, alata; alae carnosae, rigidae, deflexae, ovato-triangulae; stigma inter alas situm. Anthera abortiva.

Cycnoches LINDL. *Gen. & Sp. Orch. Pl.* (1832), p. 154. — BENTH. et HOOK. F. *Gen. Plant.* III, p. 552. excl. syn. — ROLFE in *Gard. Chron.*, 1891, pt. 2, p. 69.

Cycnoches peruvianum. Pseudobulbi fusiformes, 4-6 poll. longi. Folia lanceolata, acuta, plicata, 4-7 poll. longa. ♂ Racemus pendulus, gracilis, laxiflorus, 9 poll. longus. Bracteae lanceolatae, acuminatae, 9-12 lin. longae. Pedicelli circa 9 lin. longi. Sepala lanceolata, acuta, 1 poll. longa. Petala similia, subfalcata. Labellum unguiculatum, unguis 3 lin. longus, limbus orbiculatus, margine in processibus clavatis obtusisque 2 lin. longis soluto. Columna tenuissima, 1 poll. longa. — ♀ Ignotus.

Cycnoches peruvianum ROLFE, supra.

This interesting form — we cannot yet say whether it will prove to be a distinct species — is a native of Peru, whence it was introduced by Messrs LINDEN, L'HORTICULTURE INTERNATIONALE, Parc Léopold, Brussels, and flowered in that establishment during May of the present year. The male flowers only are at present known, and these are closely allied to the corresponding sex of *C. ventricosum* in structure, though they are not identical, and in colour they are quite distinct. Instead of being of a dark purple shade, they are light green, with numerous small brown spots, with a white lip, as shown in the annexed plate. *C. ventricosum*, moreover, is a native of Mexico and Guatemala. *C. stelliferum* LINDL., which has pale green flowers, has been supposed to be a variety of the same species, but it, too, is a native of Mexico. I have compared the present form with every described species, but have failed to identify it, and therefore propose for it the above name.

The sportive character of this singular genus is now well known, and it is to be hoped that with care the plant will gain in strength, and in due time produce female flowers, which in all probability will enable us to form a more decided opinion than at present. We may safely predict that they will be three

times the size of the males, and totally different in appearance and structure. Meantime the presence of the genus in Peru is an interesting discovery, and the species, whether it ultimately prove distinct or not, is quite different from anything known to me in cultivation at the present time.

This remarkable genus, which for so long was a puzzle to naturalists, was originally described by Dr. LINDLEY, in 1832, from a single flower, produced in the Nursery of Messrs LODDIGES, of Hackney, on a plant received by them from Surinam, to which the name of *Cycnoches Loddigesii* was given. Very soon afterwards it began to exhibit those peculiar propensities for which the genus soon became famous, as will be seen from the following extract from the *Botanical Register* for 1837, in a note under t. 1951. " In August 1836, Mr. WILLMER, of Oldfield, near Birmingham, sent me a specimen of a Cycnoches, which had broad petals, a short column, hooded and dilated at the apex, and a broad roundish lip, gibbous at the base, and with its stalk much shorter than the column. It was, however, destitute of scent, while *Cycnoches Loddigesii* has, as is well known, a delicious odour of Vanilla. I had no doubt of its being a distinct species, and called it *C. cucullatum*. But in the autumn of 1836, in the garden of the Horticultural Society, a plant of Cycnoches produced from the opposite sides of the same stem two racemes; those of the one raceme were the well-known fragrant flowers of *Cycnoches Loddigesii*, and of the other the scentless flowers of the new *C. cucullatum*. "

A few years later a still more remarkable case appeared, as is recorded by BATEMAN in his princely work, *The Orchidaceae of Mexico and Guatemala*, in 1843, t. 40. " Strange things — " he writes, " and no less strange than true — have already been recorded of Orchidaceous plants, but the case which is represented in the accompanying plate casts into the shade all former frolics of this Protean tribe. The facts are briefly as follows : — Among Mr SKINNER's earliest Guatemalan collections, attention was particularly directed to the specimens of a plant which to the habit of a Cycnoches joined the long pendulous stems of a Gongora, and for the possession of which, in a living state, no small anxiety was entertained. Some plants were speedily transmitted by Mr SKINNER, but these, on flowering, proved to be merely the old *C. ventricosum*. A mistake was of course suspected, and Mr SKINNER being again applied to, sent over a fresh supply of plants, for the authenticity of which he vouched; but these were scarcely settled in the stove, when flowers of *C. ventricosum* were again produced ; Mr SKINNER being importuned for the third time, and being then on the point of returning to this country, determined to take one of the plants under his special protection during the voyage, which, flowering on the passage, seemed to preclude the possibility of further confusion or disappointment. The specimens produced at sea were exhibited, and the plant itself placed in the stove at Knypersley, where it commenced growing with the utmost vigour. The season of flowering soon arrived, but brought with it a

(*To be continued on p.* 31.)



LAELIA PURPURATA LINDL. var. ROSEA REGEL.

A. Goossens pinx. *G. Severeyns chrom.*

PL. CCCII.

LAELIA PURPURATA LINDL. var. ROSEA REGEL.

THE ROSE-COLOURED VARIETY OF LAELIA PURPURATA.

LAELIA. Vide *Lindenia*, Engl. ed., I, p. 41.
Laelia purpurata. Vide *Lindenia*, Engl. ed., I, p. 41.
Var. rosea. Sepalis roseo-lilacinis, petalis similibus parce roseo-venosis, labello normale.
Var. rosea REGEL, *Gartenflora*, XXI, p. 225, t. 730.

This very handsome variety originally appeared at the St. Petersburg Botanic Garden, from a plant imported direct from the island of Santa Catherina, and was figured in the *Gartenflora*, in 1872. The present one, which appeared with Messrs LINDEN L'HORTICULTURE INTERNATIONALE, Parc Léopold, Brussels, is substantially identical. Its essential character lies in the sepals and petals which are of a beautiful rosy-lilac shade, the latter having a deeper rose-coloured mid-nerve, and a few irregular radiating veins on either side. The lip is almost normal in character, but is not of quite so dark a purple as some of the other varieties. It is about intermediate between the type and the variety *Lowiana*, which is believed to be the darkest form which has hitherto appeared.

R. A. ROLFE.

(Continued from page 30.)

recurrence of the former scene of astonishment and vexation, for the blossoms, instead of those of the coveted novelty, were not distinguishable from the old *C. ventricosum*. These were still hanging to the stem, when the inexplicable plant sent forth a spike of a totally different character, and which was, in fact, precisely similar to the specimens gathered in Guatemala, and to those produced on the voyage. It is, at present, impossible to attempt any explanation of so strange a phenomenon, especially on the supposition that the two forms of flowers are analagous to the male and female blossoms of other tribes, for *C. ventricosum* alone not infrequently perfects seeds. "

These phenomena puzzled the sagacious LINDLEY exceedingly, for at p. 76 of the Miscellaneous matter of the *Botanical Register* for 1843 he remarks, that " notwithstanding the unquestionable authority of Mr BATEMAN, there were many persons, well skilled in the habit of Orchidaceae, who felt convinced that some mistake had been made, and that in reality it was impossible that such totally

different flowers could have been borne by one and the same plant. " However to show that such a phenomenon was within the bounds of possibility, he gave a figure (on p. 77) in which the flowers of *C. ventricosum* and *C. Egertonianum* actually grew *intermixed* on the same raceme, in the collection of Mr HOLFORD, of Westonbirt, near Tetbury, in Gloucestershire, and which had been exhibited at a meeting of the Horticultural Society. And at t. 22 of the same volume he remarks: — " If we were informed that the Camelopard in the Zoological Gardens had shortened the vertebra of its neck till it was no longer than a cow's, or that a Kangaroo had exchanged its tail for the switch of a Shetland pony, a more surprising thing would not be announced than those changes with which we are now familiar in this group of Orchidaceae. "

At t. 46 of the same work for 1846 he further remarks : — " *C. Egertonianum* is then a " sport, " as gardeners say, of *C. ventricosum*. But what again is *C. ventricosum?* Who knows that it is not another " sport " of *C. Loddigesii*, which has indeed been caught in the very act of showing a false face, something wonderfully suspicious, all things considered, and justifying the idea that it is itself a mere Janus, whose face is green and short on one side, and spotted and long on the other. Then if such apparently honest species as *C. Egertonianum*, *ventricosum*, and *Loddigesii* are but counterfeits, what warrant have we for regarding the other so-called species of not being further examples of plants masquerading with false faces? For ourselves, we cannot answer the question; nor should we be astonished at finding some day a Cycnoches no longer a Cycnoches, but something else; perhaps a Catasetum. If one could accept the doctrine of the author of the " Vestiges, " it might be said that in this place we have found plants actually undergoing the changes which he assumes to be in progress throughout nature, and that they are thus subject to the most startling conditions only because their new forms *have not yet acquired stability*. "

Several other species have successively appeared in cultivation, one of which, namely *C. Warscewiczii*, produced two kinds of flowers on the same plant. More recently the second sex of three other species have been discovered. A plant of *C. pentadactylon* LINDL., in the collection of E. GOTTO, Esq., of The Logs, Hampstead Heath, produced flowers of both sexes, and a short time ago Mr. RAND, of Pará, Brazil, sent to Kew a fine specimen showing the same phenomenon. Then a plant in the collection of Signor H. J. Ross, of Poggio Gherardo, Florence, Italy, produced flowers of both kinds, and proving to be a distinct species, was described as *C. Rossianum*. Lastly, during the present summer the female of *C. chlorochilon* has appeared, both in the collection of M. HOUZEAU DE LEHAIE, of Hyon, Mons, Belgium, and with Messrs F. SANDER & Co., of St. Albans.

The last example is a specially interesting one, as it enabled a point to be cleared up which has long remained doubtful, and showed that, as in the allied genus Catasetum, the differences in the structure of the flowers are simply diffe-

(To be continued on p. 34.)



PHALAENOPSIS VIOLACEA TEYSM.

A. Goossens pinx. P. De Pannemaeker chrom.

PL. CCCIII.

PHALAENOPSIS VIOLACEA TEYSM.

THE VIOLET PHALAENOPSIS.

PHALAENOPSIS. Vide *Lindenia,* Engl. ed., I, p. 21.

Phalaenopsis violacea. Folia elliptico- v. obovato-oblonga, obtusa v. subacuta, coriacea, viridia. Scapi breves, 2-6- flori. Flores speciosi. Sepala oblongo-lanceolata, acuta v. subacuminata, lateralia paullo latiora. Petala similia, paullo breviora et latiora. Labellum trilobum, lobis lateralibus angustis truncatis medio obovato-oblongo apiculato carnoso carinato laevi basi bidentato. Columna clavata.

Phalaenopsis violacea TEYSM. *ex* WITTE in *Fl. Jard. Roy. des Pays-Bas,* IV (1861), p. 129, cum tab. — TEYSM. et BINN. in *Tijdschr. Nederl. Ind.,* XXIV, p. 320. — *Gard. Chron.,* 1878, pt. 2, p. 116, et p. 507. — *Id.,* 1881, pt. 1, pp. 144, 145, fig. 32. — *Fl. Mag.,* n. s., 1879, t. 342. — WARN. & WILL. *Orchid Album,* IV, t. 182. — ROLFE in *Gard. Chron.,* 1886, pt. 2, p. 277. — HOOK. F. *Fl. Brit. Ind.,* VI, p. 29. — VEITCH *Man. Orch. Pl.,* pt. 7, pp. 41, 42, cum xyl.

Stauritis violacea RCHB. F. in *Hamb. Gartenz.,* 1862, p. 31.

Var. bellina RCHB. F. in *Gard. Chron.,* 1884, pt. 2, p. 262.

Var. Bowringiana RCHB. F., *l. c.,* p. 262.

Var. chloracea RCHB. F., *l. c.,* p. 262.

Var. Murtoniana RCHB. F. in *Gard. Chron.,* 1878, pt. 2, p. 234.

Var. punctata RCHB. F. in *Gard. Chron.,* 1884, pt. 2, p. 262.

Var. Schröderi RODIGAS in *Ill. Hort.,* XXXII, p. 173, t. 576.

Var. Schröderiana RCHB. F. in *Gard. Chron.,* 1882, pt. 2, p. 680.

This elegant little Phalaenopsis appears to have been originally discovered by M. TEIJSMAN, near Palembang, in Sumatra, and was sent by him in 1859, both to the Botanic Garden at Leyden, and also to the collection of M. WILLINCK, at Amsterdam. It was originally described by M. WITTE, superintendent of the Leyden garden, where it flowered for the first time in Europe in 1861. For some time it appears to have been lost sight of, until it was sent by Mr. MURTON, of the Singapore Botanic Garden, to Mr. M. H. WILLIAMS, of Tredrea, in Cornwall, in whose collection it flowered in 1878. A plant from the same source also flowered with Messrs JAMES VEITCH & SONS, of Chelsea during the following year. In 1881 the last named firm received a consignment of plants from southern Sumatra, where they were detected by Mr. C. CURTIS, then collecting for the firm, in the hot damp forests of Palembang, growing on the trunks of trees overhanging streams and water-courses, sometimes associated with *P. sumatrana.*

It is now well known in cultivation, and has proved very variable in the colour of its flowers, which range from an almost uniform violet shade down to cream-white, with the segments somewhat barred and spotted in some of the varieties. In the light-coloured varieties, however, the front lobe of the lip usually

retains its violet colour, and in some cases also the contiguous halves of the lateral sepals, forming a very elegant contrast.

Phalaenopsis violacea has already been utilised by the hybridist, as it was the pollen parent of the handsome hybrid *P.* × *Harriettae*, and with so promising an offspring it is not improbable that it will again be utilised in the same direction.

R. A. Rolfe.

(*Continued from page* 32.)

rences of sex. It also proved that there are two distinct sections in the genus, one in which the flowers of both sexes closely resemble each other, the other in which they are very dissimilar (see my article in *Gardeners' Chronicle*, 1891, pt. 1, p. 69). The former section, as it contains the original species of the genus, may be designated Eucycnoches, the latter section, Heteranthae. To the former belong *C. chlorochilon* Klotzsch, *C. Loddigesii* Lindl., *C. Haagei* Rodr., and *C. versicolor* Rchb. f. The latter includes *C. ventricosum* Lindl. (syn. *C. Egertonianum* Batem.), *C. Warscewiczii* Reich. f., *C. maculatum* Lindl., *C. pentadactylon* Lindl., *C. aureum* Lindl. *C. Rossianum* Rolfe, *C. peruvianum* Rolfe, and two or three other imperfectly known species. Several of these species are not in cultivation at present, but we observe with pleasure that the group is now receiving more attention in gardens, and venture to hope that the next few years may see a further advance in our knowledge of so interesting a genus.

R. A. Rolfe.

The re-importation of *Cattleya labiata* marks a new sensation in Orchid records... Now we are offered it in quantities from the house of which M. Lucien Linden is director-in-chief, and we are glad to welcome it once more as one of the foremost of its race. Its easy culture makes it more popular, and with the quantities gathered there is sure to be varieties, some of which will doubtless eclipse the other forms so long in cultivation. Whenever we saw the one provisionnally named *C. Warocqueana*, we unhesitatingly declared that it was one or other of forms of *Cattleya labiata* so long looked for.

...This *labiata Pescatorei*, that we purchased on the continent was exactly the *Cattleya Warocqueana* of to-day... it is a nobilis nobilior flower. We have seen a good many plants from babyhood to maturity, there are some of the reddish-bulbed labiata among their number, the far greater portions, however, being the old *labiata Pescatorei*.

" *The Northern Gardener.* " 26th, September, 1891.

† No. See Rolfe, Orchid Review. iii (1895). 236.



SELENIPEDIUM × CALURUM NICHOLSON

A. Goossens pinx.

P. De Pannemaeker chrom.

PL. CCCIV.

SELENIPEDIUM × CALURUM NICHOLSON.

THE BEAUTIFUL-TAILED SELENIPEDIUM.

SELENIPEDIUM. Sepala patentia, posticum liberum, lateralia sub labello ad apicem connata. Petala libera, nunc sepalis multo angustiora interdum longe candata, nunc sepalis sublatiora obtusa. Labellum sessile, patens, inflato-calceiforme (nisi abnorme). Columna brevis, teres. Antherae perfectae 2, ad latera rostelli sessiles v. brevissime stipitatae, subglobosae, loculis parallelis contiguis; pollen granulosum, viscosum; staminodium pone rostellum erectum v. incumbens, late laminiforme v. carnosum, Rostellum inter antheras perfectas breve, erectum v. antrorsum inclinatum, apice in discum subtus papilloso-stigmatosum dilatatum. Ovarium perfecte 3- loculare. Capsula elongata, 3- locularis.

Herbae terrestres, rhizomate brevi v. repente, caule erecto varie foliata. Pedunculus terminalis, simplex v. ramosus, pauci- v. multiflorus. Stores speciosi v. rarius mediocres, pedicellati.

Species circa 12, Americae tropicae montanae incolae.

Selenipedium RCHB. F. in *Bonplandia,* II, p. 116. — BENTH et HOOK. F. *Gen. Plant.,* III, p. 635.

Uropedium LINDL. *Orch. Linden,* p. 28.

Selenipedium × *calurum*. Hybridum inter *S. longifolium* ♀ et *S.* × *Sedeni* ♂ productum. Folia elongato-linearia, acuta. Scapi erecti, multiflori. Bracteae lanceolatae, acutae. Flores speciosi. Sepalum posticum ovato-ellipticum, subobtusum; inferum subrotundo-ellipticum, concavum. Petala anguste lanceolata, attenuata. Labellum calceiforme, margine crenulatum. Staminodium latissime obcordato- triangulum, lateribus ciliatis.

Selenipedium × *calurum* NICHOLSON *Dict. of Gard.,* III, p. 413. — DESBOIS *Monogr. Cypriped.,* p. 144.

Cypripedium × *calurum* RCHB. F. in *Gard. Chron.,* 1881, pt. 1, p. 41. — *Florist & Pomol.,* 1884, p. 145, t. 619. — WARN. & WILL. *Orchid Album,* III, t. 136.

This beautiful hybrid was originally raised in the establishment of Messrs JAMES VEITCH & SONS, of Chelsea, by M. SEDEN, and flowered for the first time in 1881. It was obtained by crossing *S. longifolium* with the pollen of *S.* × *Sedeni*, and is thus extremely near to *S.* × *Ainsworthii*, whose only difference, so far as the parentage is concerned, is that *S. Roezlii* instead of *S. longifolium* was used as the seed parent. *S. Roezlii*, however, can only be considered a geographical variety of *S. longifolium*, and the hybrids differ only in very slight characters.

I believe the same cross has since been raised in other establishments.

The history of this particular group of hybrids is a very interesting one, and their importance as decorative plants can scarcely be over-estimated. The first of the series was *S.* × *Sedeni*, said to have been the first hybrid raised by Mr. SEDEN, which was described in 1873, and distributed in the following year. It was obtained by crossing *S. Schlimii* with the pollen of *S. longifolium*, and also from the reverse cross. No tangible difference is said to have been discernible between the plants raised from the two crosses, either in habit, or in the structure and colour of the flower. This cross was a great achievement, both in itself, and for the results which were to follow. The one parent has a small but pretty flower, coupled with a somewhat weak habit; the other a vigorous and

robust habit, with a large and well-shaped, but rather dingily-coloured flower. The result of this combination of characters, however, proved an almost unlooked-for success, for it united the vigorous habit of the one, with a well-shaped and brilliantly-coloured flower, with a preponderance of characters of the other, and a floriferousness which can scarcely be surpassed, as the flowering period may be said to extend almost throughout the year.

S. × *Sedeni* was then crossed back on to each of its two parents, yielding, with *S. longifolium*, *S.* × *calurum*, and, with *S. Schlimii*, *S.* × *cardinale*, two extremely beautiful secondary hybrids. It was also crossed on to *S. caudatum*, yielding *S.* × *Schroederae*, perhaps the handsomest hybrid yet produced in the genus. Other combinations of species have yielded several additional and beautiful primary hybrids, and these again, crossed in various ways with the parent species, have produced other secondary ones of great horticultural value. What the future may reveal no one can tell, but the results already obtained in this genus are so remarkable, that we may expect to see some further striking developments in the course of the next few years. R. A. Rolfe.

CATTLEYA LABIATA LINDL.

Further materials come to hand to elucidate the question of the identity of the variety *Warocqueana* with the old autumn flowering type, in the shape of six different flowers, from the same number of plants, from Messrs Linden, of Brussels. They have all the characteristics of the ancient plant, and, as I said before, are not distinguishable from it.

As in the case of those received last autumn from the same source, they are larger than any of the specimens of the ancient type now preserved at Kew, but this could easily be explained, and does not constitute a tangible difference. They have the same brilliant colour, they flower at the same period, and as I am now told that they came from Brazil, it only confirms the opinion I previously expressed, namely, that the variety *Warocqueana* is only a synonym of *C. labiata*, and therefore the newer name will have to be cancelled. There is an appreciable difference between the six flowers in the breadth of the petals and lip, in the shade of colour, and in the amount of yellow on the disc; but this is only what was observed years ago.

R. A. Rolfe.

Gardeners' Chronicle, October 17, 1891.)

American Edition. PART. XI. December 1891.

LINDENIA

ICONOGRAPHY

OF ORCHIDS

CONDUCTED BY

J. LINDEN, LUCIEN LINDEN, EM. RODIGAS
and R. A. ROLFE.

THE COLOURED PORTRAITS BY

P. DE PANNEMAEKER, A. GOOSSENS and G. SEVEREYNS.

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CATTLEYA × HARDYANA RCHB. F. var. LAVERSINENSIS L. LIND.

PL. CCCV.

CATTLEYA × HARDYANA RCHB. F. var. LAVERSINENSIS L. LIND.

Mr HARDY'S CATTLEYA, LAVERSINE VAR.

CATTLEYA. Vide *Lindenia*, Engl. ed., vol. I, p. 7.

Cattleya × *Hardyana*. Pseudobulbi clavato-fusiformi, subcompressi, sulcati, monophylli. Folia lineari-oblonga, obtusa, emarginata. Racemi circa 4-flori. Flores speciosissimi. Sepala lineari-lanceolata, acuta, apice recurva. Petala elliptico-ovata, obtusa, undulata. Labellum integrum, elliptico-oblongum, apice bilobum, valde undulatum. Columna clavata.

Cattleya Hardyana WILLIAMS *Orch. Gr. Man.*, ed. 6 (1885), p. 633. — *Gard. Chron.*, 1885, pt. II, p. 206. — WARN. & WILL. *Orchid Album*, V, t. 231. — ROLFE in *Gard. Chron.*, 1889, pt. 2, p. 560.

C. × *Massaiana* WILLIAMS *Orchid Album*, VIII, t. 362.

The first notice I find of this magnificent Cattleya is in the *Gardeners' Chronicle* for August 16th 1884, where under the heading of " A NEW CATTLEYA " we read : — " An extraordinary variety, evidently a natural hybrid between *C. aurea* and a variety of *C. gigas* — probably *Sanderiana* — is now in bloom in the collection of GEORGE HARDY, Esq., Pickering Lodge, Timperley, Cheshire. In form and size it is a magnificent thing, and in the richness of the labellum it is just what might be expected from the blending of the bright orange veining in the throat of *C. aurea* with the expanded rich crimson half of the other parent. It is wonderfully beautiful and sweet. "

Shortly afterwards it was more fully described and its history given. It was purchased for Mr HARDY as *Cattleya gigas var. Sanderiana*, about the year 1880, and until it flowered for the first time no difference was suspected. It was imported in a batch of the two parent species from Frontino, in the state of Antioquia, on the western Cordillera of New-Granada. It is an extremely beautiful Cattleya, and shows characters derived from both parents. The sepals and petals are light rosy-mauve, with a little white at extreme base, and the lip with the front lobe and margin of the side lobes of a very deep rosy-purple, the disc reticulated with clear yellow nerves, and a large yellow blotch on either side. It is very sweetly scented, like *C. Dowiana*, but the vegetative organs are more like those of the other parent.

The above remarks apply to the original, typical *C.* × *Hardyana*, but several other forms have since appeared, which are clearly derived from the same parentage, and must therefore be classed as varieties. *C.* × *Massaiana* is one of these, and chiefly differs in having the sepals somewhat marbled with white, chiefly on the disc, and the lip less veined, with the eye-like spots rather more clearly defined. The petals approach *C. Dowiana* in shape. Other forms

have not only the shape of this parent, but very nearly the coulour also, and it is very interesting to observe the wide range variation, according as the characters of one or the other parent predominates. The sepals and petals may be light yellow marbled with pale pink, and in some of these pale forms the yellow appears chiefly along the nerves, giving a reticulated appearance. Frequently the pink colour is deepest near the margins.

The variety here represented has the sepals marbled with pink on a light ground, the petals being of a deeper shade, and the front lobe of the lip very richly couloured. It appeared with M. le baron F. DE ROTHSCHILD, château de Laversine, France, during August last.

The occurrence of these different forms is very interesting, and seems to show that the two species cross very readily where they grow together on the western Cordillera. It is only here, where the areas of two parents overlap, that *C.* × *Hardyana* has been found, a fact which taken in conjunction with the combination of characters seen in *C.* × *Hardyana*, leaves no doubt of its origine and parentage. *C. Dowiana* grows in Costa Rica, and its variety *aurea* 600 miles further south near Frontino, on what is really a southern extension of the same mountain range. The other parent grows on all three Cordilleras, western, central, and eastern. The localities given are : Frontino on the western Cordillera; from Amalfi southwards to beyond Medellin on the central Cordillera; and from La Palma to beyond Flores on the eastern Cordillera. It is said to range from the seventh to the fifth parallel of north latitude, south of which it is replaced by *C. Trianae*.

R. A. ROLFE.



RODRIGUEZIA PUBESCENS RCHB. F.

PL. CCCVI.

RODRIGUEZIA PUBESCENS RCHB. F.

THE PUBESCENT RODRIGUEZIA.

RODRIGUEZIA. Sepala subaequilonga, posticum liberum, petaloideum, lateralia angusta, alte connata, omnia erecta, conniventia v. lateralia sub labello patentia v. reflexa, rarius incurvo-ascendentia mentum sub labello formantia. Petala sepalo postico similia. Labellum basi columnae continuum v. brevissime connatum, erectum, basi in calcar breve v. gibbum saepius solidum productum, ungue columnae parallelo, lamina patente obovato v. obcordato sepala saepe excedente, disco saepius cristato. Columna erecta, tenuis, apoda, apice clavata v. in brachia v. auriculas 2 varie producta; clinandrii lobi laterales nunc longe producti nunc abbreviati. Anthera terminalis, opercularis, incumbens, valde connexa v. galeata, 1-locularis; pollinia 2, cerea, ovoidea v. subglobosa, sulcata, inappendiculata, anthera dehiscente stipiti lineari v. basi dilatato affixo, glandula oblonga.

Herbae epiphyticae, caulibus secus rhizoma interdum elongatum brevibus pseudobulbo 1-2-foliato terminatis. Folia oblonga v. elongata, coriacea. Scapi sub pseudobulbo axillares, erecti. Racemi simplices, floribundi, floribus saepius speciosis.

Species ad 20, Americae tropicae a Brasilia usque ad Americam centralem incolae.

Rodriguezia RUIZ et PAV. *Prodr. Fl. Peru et Chile* (1794), p. 115, t. 25. — BENTH. et HOOK. F. *Gen. Plant.*, III, p. 559.

Burlingtonia LINDL. *Bot. Reg.*, XXIII (1837), t. 1927.

Rodriguezia pubescens. Acaulis; foliis coriaceis apice carinatis mucronatis; racemis densissimis pendulis; sepalo postico oblongo-lanceolato acuto, sepala lateralia alte connata angustiora basi gibbo-incurva; petala obovato-oblonga subobtusa; labello obovato bilobo breviter hastato laciniis erectis, cristae lamellis utrinque 3 valde inaequalibus; columnae basi pubescentis alis 2 minutis subulatis albis 2 oblongo-linearibus porrectis.

Rodriguezia pubescens RCHB. F. in *Mohl & Schlecht. Bot. Zeit.*, X (1852), p. 771. — ID. in *Walp. Ann.*, VI, p. 694.

Burlingtonia pubescens LINDL. in *Paxt. Fl. Gard.*, I (1850-1), p. 158. — RCHB. F. in *Walp. Ann.*, III, p. 554.

This elegant and beautiful species was originally described by Dr. LINDLEY, in PAXTON'S *Flower Garden*, in 1851, under the name of *Burlingtonia pubescens* — the identity of the genus *Burlingtonia* with the earlier *Rodriguezia* being then unknown. From this source we learn that it was exhibited at a Meeting of the Horticultural Society in November 1850, when it received a Silver Medal. " It formed a wide tuft of dark green rigid leaves, pouring forth from their bosom a profusion of bunches of snow-white blossoms. It had been sent to JOHN KNOWLES, Esq., of Manchester, from some friends in Pernambuco, where it appears to be very rare. It is not new, however, for we have in our possession a dried specimen, communicated by the late Mr. GEORGE LODDIGES, in November 1846, at which time we named it *pubescens* in allusion to the down on the column, which is not found in the other drooping white-flowered species. "

It has occasionally been met with in collections during recent years, but cannot be considered by any means a common plant. Messrs LINDEN have, however, imported a number of plants, which have flowered finely during the present autumn, from one of which the annexed plate has been prepared.

These charming little plants are worthy of a place in every collection. They succeed best in small baskets or pans filled with sphagnum moss and potsherds, and while growing require a good supply of heat and moisture. They want but little rest and should never be allowed to become dry at the roots.

R. A. Rolfe.



AERIDES SUAVISSIMUM LINDL.

A. Goossens pinx. *P. De Pannemaeker chrom.*

PL. CCCVII.

AËRIDES SUAVISSIMUM LINDL.

THE SWEETEST AIR-PLANT.

AËRIDES. Sepala subaequilonga, patentia, posticum ovatum v. oblongum, lateralia latiora, basi pede columnae adnata. Petala sepalo postico subsimilia. Labellum pedi columnae affixum, erectum v. incumbens, basi calcaratum, calcare sursum recurvo v. sub lamina ascendente intus vacuo; lobi laterales ad latera calcaris erecti, latiusculi, saepius parvi; medius patens, ovatum v. amplum. Columna brevis, crassiuscula, basi in pedem producta, exalata; clinandrium truncatum, parum prominens. Anthera terminalis, opercularis, incumbens, convexa, 2-locularis; pollinia 2, compresso-globosa, extus sulcata, inappendiculata, anthera dehiscente stipiti angusto v. complanato affixa, glandula squamiformis. Capsula oblonga v. clavata, erostris, patens v. reflexa, saepius crassiuscula, rarius longior et angustior, costis prominentibus v. anguste alatis.

Herbae epiphyticae, caulibus foliatis non pseudobulbosis. Folia disticha, coriacea, v. subcarnosa, vaginis persistentibus caulem obtegentibus. Racemi laterales, nunc simplices dense floribundi, nunc ramosi laxiores. Flores mediocres v. majusculi, racemis saepius speciosis, bracteae parvae.

Species ad 20, Indiae orientalis, Archipelagi Malayani et Asiae orientalis usque ad Japonicum incolae.

Aërides LOUR. *Fl. Cochinchin.* (1790), p. 525. — BENTH. et HOOK. F. *Gen. Plant.*, III, p. 576.

Aërides suavissimum. Foliis linearibus inaequaliter bilobis recurvis; racemo pendulo v. subpendulo multifloro; bracteis nanis ovatis scariosis; sepalis petalisque ovalibus obtusis, patentissimis; labello cornuto ascendente columnae appresso trilobo, lobis lateralibus oblongis subdenticulatis, lobo intermedio nano lineari bifido integro v. denticulato.

Aërides suavissimum LINDL., in *Journ. Hort. Soc.*, IV (1849), p. 264. — ID. in *Paxt. Fl. Gard.*, II, p. 141, t. 66. — ROLFE in *Gard. Chron.*, 1890, pt. I, p. 43. — HOOK. F. *Fl. Brit. Ind.*, VI, p. 47. — VEITCH *Man. Orch.*, pt. VII, p. 78.

A. flavidum LINDL., in *Paxt. Fl. Gard.*, II (1851-1852), p. 101.

A. Reichenbachianum LINDEN, in *Koch et Fintelm. Wochenschr.*, I (1858), p. 61. — RCHB. F. *Xen. Orch.*, II, p. 11, t. 104.

A. nobile WARNER *Sel. Orch.*, I (1862), t. 11. — REGEL *Gartenflora*, XIX, p. 40, t. 641.

A. Rohanianum RCHB. F., in *Gard. Chron.* (1884), pt. I, p. 206.

Var. Ballantineanum HOOK. F., *Fl. Brit. Ind.*, VI (1890), p. 37. — VEITCH *Man. Orch.*, pt. VII, p. 78.

A. Ballantineanum RCHB. F., in *Gard. Chron.*, 1885, pt. II, p. 198.

Aërides suavissimum was originally described by Dr LINDLEY in the *Journal of the Horticultural Society* for 1849, from a plant introduced from the Straits of Malacca by Messrs LODDIGES of Hackney, with whom it flowered in June of that year. In general appearance it was described as being similar to *A. odoratum*, but in fragrance more balsamic and delicious. The sepals and petals are white or pale blush, with a lilac tip; the lip is pale nankeen yellow, with a lilac streak along the centre of the middle lobe, the tip of the spur being reddish. It differs from *A. odoratum* in the middle lobe of its lip being emarginate and much longer than the lateral ones. *A. flavidum*, described by LINDLEY immediately afterwards, soon proved to be simply a variety of the same. *A. Reichenbachianum* and *A. Rohanianum* appear to be also varieties of this species.

Although closely allied to *A. odoratum* in many respects, it is markedly

different in its buff-coloured lip, and its longer racemes, which appear later in the season. The flowers are deliciously fragrant.

The variety *Ballantineanum* is the most distinct deviation from the type which has yet appeared, and is chiefly characterised by its shorter, fewer-flowered racemes, which appear earlier in the year.

The cultivation of these plants is now pretty generally understood. They should be placed in the warm house, and during the growing season a copious supply of water must be given. When at rest the amount should be greatly reduced, but they may never be allowed to become dry.

The geographical range of this species appears to be very imperfectly known. Mr F. W. Burbidge saw it growing luxuriantly at Singapore, as recorded in his *Gardens of the Sun*, p. 18, where, however, it may have been an introduced plant.

R. A. Rolfe.



DISA GRANDIFLORA LINN. FIL.

PL. CCCVIII.

DISA GRANDIFLORA LINN. FIL.

THE LARGE-FLOWERED DISA.

DISA. Sepala aequilonga, libera, posticum galeatum, nunc dorso v. basi in calcar polymorphum productum, nunc saccatum umbonatum v. planum, lateralia patentia. Petala nunc sepalis lateralibus similia, nunc minora obliqua v. valde polymorpha. Labellum a basi columnae patens, ecalcaratum sepalis saepius minus et sessile, v. interdum longe unguiculatum, lamina indivisa subtriloba v. lacero-fimbriata. Columna brevis crassiuscula; rostelli lobi laterales erecti v. apice supra glandulas recurvi, medius parvus; stigma ad basin columnae a rostello distans, carnosum pulvinatum v. elevato-cupulatum, plus minus basi labelli adnatum, integrum. Anthera cum clinandrio suberecta reclinata v. in dorsum columnae reflexa, loculis elevatis parallelis adnatis, apicibus (inferis) extremitate reverso-erectis v. ascendentibus interdum longiusculis, lobis lateralibus rostelli applicitis; pollinia in loculis solitaria, laxe granulosa, caudulis saepius elongatis, glandulis 2 nudis discretis affixa. Capsula oblonga, angusta v. fere linearis, erecta.

Herbae terrestres, habitu *Habenariae,* tuberibus indivisis, caule nunc elato folioso, nunc tenui paucifolio v. foliis ad squamas vaginantes reductis. Flores in una specie maximi solitarii v. gemini, in aliis majusculis v. mediocribus laxe spicati v. racemosi nunc parvi dense longeque spicati v. interdum fere in corymbum conferti v. ad. 1 v. 2 reducti. Bracteae saepius floribus breviores.

Species ad 50, Africae tropicae et australis et ins. Mascarensium incolae.

Disa BERGIUS *Descr. Pl. Cap. B. Spei* (1767), p. 348. — BENTH et HOOK. *Gen. Pl.*, III, p. 630.

Disa grandiflora. Caule erecto folioso; foliis lineari-lanceolatis acuminatis patentibus basi vaginantibus; racemo erecto 1-5-floro (rarissime 5-12-floro); floribus maximis speciosis; bracteis ovato-lanceolatis acuminatis; sepalis maximis, lateralibus planis ovatis acuminatis, sepalo postico cucullato ovato acuto, supra basin calcare breviusculo pendulo; petalis oblique obovatis parvis; labello lanceolato-lineare acuto apice recurvo; columna erecta utrinque appendiculata, appendicibus ovalibus dimidiatis erectis cum anthera parallelis, margine laterali replicato dentato et cum dorso columnae basi adnato; clinandrio magno dilatato carnoso trilobo, lobo medio inflexo; anthera terminali erecta, apiculata, in parte posteriore clinandrii inserta, connectivo carnoso rigido, loculis parallelis, basi divaricatis solutis in lobis lateralibus clinandrii incumbentibus; pollinibus gracilibus elongatis, glandulis nudis; stigmate carnoso concavo.

Disa grandiflora L. FIL. *Suppl. Pl.* (1781), p. 406. — KER. in *Journ. Soc. of Arts,* IV, p. 205, t. 5, fig. 1. — LAM. *Encycl.*, III, p. 305, t. 727, fig. 1. — LINDL. *Sert. Orch.*, t. 49. — ID. *Bot. Reg.*, XI, t. 926. — *Bot. Mag.*, t. 4073. — *Pescatorea,* t. 18. — *Belg. Hort.*, V, p. 97, t. 7, fig. 1-2. — *Fl. & Pomol.* (1863), p. 105, cum tab. (var. superba). — WARN. *Sel. Orch.*, ser. 1, t. 36 (var. superba). — RCHB. *Fl. Exot.*, II, t. 110. — *Fl. d. Serres,* t. 160. — JENN. *Orch.*, t. 40. — *Fl. Mag.*, II, t. 69. — *Fl. & Pomol.* (1872), pp. 274, 275, cum xyl. — *Journ. Linn. Soc.*, VII, pp. 143, 145, cum xyl. — ID., XIX, p. 233, fig. I (columna). — *Gard. Chron.* (1875), p. I, p. 441, fig. 90. — ID. (1882), pt. I, p. 402, fig. 62 (infans). — ID. (1888), pt. 2, p. 665, fig. 94. — *Reichenbachia,* ser. 2, I, p. 33, t. 15.

Disa uniflora BERGIUS *Pl. Cap.* (1767), p. 348, t, 4, fig. 7. — BOLUS *Orch. Cape Penins.*, p. 147.

Satyrium grandiflorum THUNB. *Prodr. Pl. Cap.* (1794), p. 4.

Disa Barrelii, Hort., *Fl. Mag.*, n. s. (1874), t. 104.

This magnificent terrestrial Orchid is a native of Table mountain and one or two other localities in South Africa. According to BOLUS it is found along the margins of streams (which frequently become dry in the summer) on Table mountain, from about 1100 to 3300 feet above sea level, and also extends eastwards on the Hottentot's Holland range of mountains, and Cold Bokkeveld on the Gydouw Mt., and northwards has been reported from the Cederbergen. It usually flowers from January to March. It appears to have

flowered for the first time in Europe in June 1825, in the collection of William Griffin, Esq., of South Lambeth. It has been known since 1704, being mentioned in the third edition of Ray's *Historia Plantarum* as " Orchis Africana flore singulari herbacea. "

Bolus speaks of it as " the peerless Disa uniflora, " and observes — " This beautiful flower is the object of universal admiration, and the name which has been given to it, the " Pride of Table mountain, " indicates the honour in which it is held. It is, indeed, the queen of terrestrial Orchids in the Southern Hemisphere, as *Cypripedium spectabile* may be said to reign, though with less magnificence, in the Northern. " He further observes — " It is still abundant on Table mountain, although of late years large quantities of the tubers have been annually exported to Europe, and much needless destruction, arising from wasteful gathering by unskilled hands, resulted. But the summit of the mountains being Crown-land, the Government has recently intervened, and restricted the removal of tubers within reasonable limits; so that, if this supervision be continued, there will be little reason to fear the extinction of this truly noble species. "

It was originally described by Bergius as *Disa uniflora*, in 1767, and is the species upon which the genus was founded. The younger Linnaeus, however, considering the specific name inappropriate, as the plant has usually more than one flower, changed it to *Disa grandiflora* — a course only justifiable when a name is found to be inaccurate, as in the present instance. Ordinary specimens produce from one to five flowers, but the variety *superba* has sometimes as many as nine, and Mr B. S. Williams, in the *Orchid Grower's Manual*, records receiving from Chatsworth a raceme two and a half feet long, and bearing no less than twelve flowers. This, however, is an exceptional example.

It is probably the handsomest member of the genus, but there are two or three others which are well worthy of more attention. A handsome hybrid has recently been raised between this species and *D. rosea*, by Messrs James Veitch & Sons, of Chelsea, to which the name of *D.* × *Veitchii* has been given.

R. A. Rolfe.

American Edition. PART XII. January 1892.

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CYPRIPEDIUM × VEXILLARIUM RCHB. F.

A. Goossens pinx. *P. De Pannemaeker chrom.*

PL. CCCIX.

CYPRIPEDIUM × VEXILLARIUM RCHB. F.

THE STANDARD-BEARER CYPRIPEDIUM.

CYPRIPEDIUM. Vide *Lindenia*, Engl. ed., vol. I, p. 31.

Cypripedium × *vexillarium.* Foliis ligulatis acutis apice bidentatis pallidis parce ac hieroglyphico tessellatis; pedunculo velutino unifloro; sepalo dorsali latissimo ovali-acuto tantum extus glandipili, utrinque septemnervi; sepalo inferiori ovato acuto utrinque septemnervi; petalis oblongo-ligulatis undulatis reflexis, non arcuatis, ciliatis, circa limbum superiorem parce verrucosis; labelli ungue implicato, sacco ipso antice ostio retuso, utrinque juxta basin lacinula una; staminodio transverso antice retuso medio apiculato, utroque limbo introrsum semiforcipato, disco reticulato.

Cypripedium vexillarium RCHB. F. in *Gard. Chron.*, 1870, p. 1373. — *Gard. Chron.*, 1880, pt. I, pp. 780, 781, fig. 35. — *Gard. Chron.*, 1887, pt. I, p. 456, fig. 87. — *Orchidophile*, 1883, pp. 602, 603, cum. xyl. — VEITCH *Man. Orch.*, pt. IV, p. 100, cum. xyl.

This handsome hybrid was obtained by crossing *Cypripedium barbatum* with the pollen of *C. Fairieanum*. It flowered for the first time in 1870, about a year later than *C.* × *Harrisianum*, which is the only older hybrid in the genus. Both were raised by the late Mr DOMINY, in the establishment of Messrs JAMES VEITCH & SONS, of Chelsea, and their production was undoubtedly a great horticultural achievement. Artificial hybridisation of Orchids was then in its infancy, but the success of these early experiments served as a stimulus to greater efforts in the same field, with the result that during the next few years a large number of novelties appeared, and at the present time the number of hybrids in the genus Cypripedium is far greater than that of the species from which they have been derived.

Cypripedium barbatum has been a very popular species with hybridists, and no less than nineteen different combinations with it have been effected. *C. Fairieanum* is too rare to have been utilised to such an extent, but five hybrids from it have already flowered, and as other crosses with it have been effected we may expect some further developments within the next few years. *C.* × *vexillarium* was followed in 1874 by *C.* × *Arthurianum*, a distinct and very beautiful seedling from *C. insigne*, whose influence in the hybrid is very strongly marked. *C.* × *Niobe* is a seedling from *C. Spicerianum*, which flowered in 1890, and it was quickly followed by two others, *C.* × *H. Ballantine* and *C.* × *Juno*, the former a seedling from *C. purpuratum*, the latter from *C. callosum*.

In the present hybrid the characters of the pollen parent decidedly preponderate. The pallid leaves are reticulated with green of a deeper shade. The flower is much like a large *C. Fairieanum* in shape, though somewhat modified in the direction of the other parent. The dorsal sepal is washed with purple on

a pale ground and nerved with vinous purple. The petals are deflexed, broadly ligulate, undulate and ciliate, margined with purple, and with green nerves. The lip is much like that of *C. Fairieanum* in shape, brownish red, paler beneath, the infolded side lobes pale green with a number of purple warts. The staminode is broader and shorter than in *C. Fairieanum*, the colour brownish green. It is a most beautiful and floriferous little plant.

R. A. Rolfe.



ANGULOA UNIFLORA RUIZ et PAVON var. TREYERANI ROLFE

A. Goossens pinx. *P. De Pannemacker chrom.*

PL. CCCX.

ANGULOA UNIFLORA RUIZ et PAVON var. TREYERANI ROLFE.

THE ONE-FLOWERED ANGULOA, M. TREYERAN'S VARIETY.

ANGULOA. Sepala subaequalia, lata, crassiuscula, fere in globum conniventia, lateralia basi rotundata, sub pede columnae connata. Petala sepalo postico subsimilia v. minora. Labellum in pede columnae plus minus stipitatum, carnosulum; lobi laterales ad apicem unguis erecti, paralleli, medius patens, parvus v. latior ciliatusque; discus medio lamella auctus. Columna erecta, semiteres, exalata, basi in pedem brevem producta; clinandrium truncatum v. antice biappendiculatum. Anthera terminalis, opercularis, incumbens, galeata, unilocularis; pollinia 4, cerea, ovata v. oblonga, per paria sibimet arcte applicata postico minore, inappendiculata, anthera dehiscente stipiti longo plano affixa, glandula ovata.

Herbae epiphyticae v. terrestres, caulibus brevibus paucifoliatis basi vaginatis mox in pseudobulbos carnosos incrassatis. Folia ampla plicato-venosa. Scapi ad latera pseudobulborum erecti, uniflori, vaginis pluribus laxis, superioribus interdum in laminam foliaceam brevem productis. Flos magnus, erectus.

Species 3, Andium Columbiae et Peruviae incolae.

Anguloa RUIZ et PAVON, *Fl. Peruv. et Chil. Prodr.* (1794), p. 118, t. 26. — BENTH. et HOOK. F. *Gen. Plant.*, III, p. 548.

Anguloa uniflora. Pseudobulbi conico-ovoidei. Folia late elliptico-oblanceolata, acuta, plicato-venosa. Pedunculus uniflorus, squamis basi imbricatis inflato-tubulosis vaginatus. Bractea spathacea, acuta. Sepala ovata, acuminata, cucullato-concava. Petala conformia, minora. Labellum trilobum, lobis lateralibus amplis rotundatis obtusissimis, lobo medio lineari-angusto reflexo-revoluto, callo carnoso lato retuso. Columna clavata, apice laciniis duabus subulatis aucta.

Anguloa uniflora RUIZ et PAVON. *Syst. Veg. Fl. Peruv. et Chil.* (1798), p. 228. — LINDL. *Gen. et Sp. Orch.*, p. 160. — ID. *Bot. Reg.*, XXX, t. 60. — *Bot. Mag.*, t. 4807. — RCHB. F, in *Bonplandia*, II, p. 277. — RCHB. F. in *Walp. Ann.*, VI, p. 599. — REGEL *Gartenflora*, XXXII, p. 353, t. 1137. — *Lindenia*, III, p. 11, t. 100. — *Ill. Hort.*, XXXVII, p. 37, t. 101.

A. virginalis HORT. *Gard. Chron.*, 1851, p. 392.

A. eburnea WILLIAMS *Orchid Album*, III, t. 133.

The genus *Anguloa* was established by the Spanish botanists RUIZ and PAVON, in 1794, in honour of D. FRANCISCO DE ANGULO, Director-general of Peruvian Mines, a gentleman greatly attached to botanical pursuits, upon the species here figured, which they remark is found in clearings (called « *Carpales* ») about Muña and Chincao, and profusely in the woods of Tarma and extending to Huayabal, Chanchamayo and Siusa; that it flowers in August and September, and that it is called « *Flor del Espiritu Santo* ». Nothing further seems to have been known about it until April 1844, when it flowered in the collection of Mr BARKER of Birmingham, from specimens believed to have been received from M. LINDEN's Columbian collections. There is no wild specimen in Dr LINDLEY's Herbarium from this source, for the one cited by him in the *Orchidaceae Lindenianae* is certainly *A. Clowesii*, LINDL. The two are readily distinguishable in the dried state, and there is the evidence written on the ticket by M. LINDEN himself — « Pétales d'un jaune sale, labelle blanchâtre » — which just describes

A. Clowesii. The locality given, however, " Sierra Maestre, Cuba ", as pointed out by LINDLEY, is probably a mistake, and has arisen by some accidental confusion of tickets. SCHLIM, however, collected *A. uniflora* in the province of Ocana, in New Granada, at an altitude of 1550 metres, in August 1851. It is labelled " *A. virginalis*, fl. blanc pur ", but this is only a variety of the same species. WARSCEWICZ also met with it at the sources of the Marañon, in North Peru, and at Quindios, in the province of Tolima, in New Granada, from which latter source was obtained the plant figured in the *Botanical Magazine*. There is also a specimen in LINDLEY's Herbarium sent by JAMIESON, probably from the neighbourhood of Quito; it is labelled " Forests of the Andes at 7000 feet elevation ". We have therefore evidence that the species is diffused along the Andes from southern Peru to the north of New Granada, and possibly into Venezuela, for it was near Merida that M. LINDEN's dried specimens of *A. Clowesii* were obtained, and a batch of living plants sent home by M. LINDEN contained all the three species of Anguloa.

For just half a century nothing seems to have been known about the genus beyond that contained in the original description, but in March 1844 a second species, *A. Clowesii*, appeared. In describing it Lindley remarked: " At last a genuine species of the genus *Anguloa*, which has hitherto puzzled every one, has made its appearance in the collection of the REV. J. CLOWES, of Broughton Hall, near Manchester, who obtained it from LINDEN's Columbian collections. " In the following month the long lost *A. uniflora* flowered with Mr BARKER, of Birmingham, and later in the same year a third species, *A. Ruckeri* LINDL., blossomed with Mr RUCKER, of Wandsworth. All three were obtained from M. LINDEN's discoveries and it is somewhat singular that after the lapse of nearly another half a century no additional species should have been discovered. It is true that two or three others have been described, but they have proved to be nothing but varieties of the older species. Two other forms, however, are of considerable interest, namely *A.* × *media* RCHB. F. and *A.* × *dubia* RCHB. F. The first named is an artificial hybrid between *A. Clowesii* and *A. Ruckeri* (which by an oversight I described again as *A.* × *intermedia*), and singularly enough it has since appeared as a natural hybrid with imported plants. The second is a supposed natural hybrid between *A. Clowesii* and *A. uniflora*, which I have never seen. The other possible combination, *A. uniflora* with *A. Ruckeri*, does not appear to have been yet heard of.

The variety here figured chiefly differs in having the transverse rosy bars on the base of the lip more developed than usual, and a little more colour about the crest; it is dedicated, at M. L. LINDEN's request, it to M. TREYERAN, a well-known French lover of Orchids.

R. A. ROLFE.



TRICHOCENTRUM TRIQUETRUM ROLFE

A. Goossens pinx. P. D. Pm...

PL. CCCXI.

TRICHOCENTRUM TRIQUETRUM ROLFE.

THE THREE-ANGLED TRICHOCENTRUM.

TRICHOCENTRUM. Sepala subaequalia, libera, patentia. Petala sepalis similia. Labellum basi cum columna in urceolum connatum, basi in calcar descendens productum, supra urceolum erectum, biauriculatum v. nudum; lobi laterales parum dilatati, erectiusculi, medius explanatus, late bilobus, sepalis multo longior. Columna brevis, crassa, fere ad apicem adnata, apoda; clinandrium antice latiuscule bilobum, dorso breve. Anthera terminalis, opercularis, incumbens, semiglobosa, imperfecte bilocularis; pollinia 2, cerea, ovoidea, compressiuscula, inappendiculata, anthera dehiscente stipiti plano cuneato affixa, glandula ovata.

Herbae epiphyticae, caulibus brevissimis unifoliatis demum in pseudobulbum parvum carnosum incrassatis. Folia coriacea. Scapi inter pseudobulbos breves, plurivaginati, uniflori v. rarius biflori. Flores mediocres v. majusculi.

Species circa 20, Americae tropicae a Brasilia usque ad Americam centralem incolae.

Trichocentrum POEPP. et ENDL. *Nov. Gen. et Sp.*, II (1838), p. 11, t. 115. — BENTH. et HOOK. F. *Gen. Plant.*, III, p. 559.

Trichocentrum triquetrum. Folia equitantia, 6 poll. longa, basi 6 lin. lata, apice attenuata, acuta. Pedunculi axillares, 1 poll. longi, pauciflori. Bracteae conduplicatae, lanceolato-lineares, acutae, 6 lin. longae. Ovarium pedicellatum, triquetrum. Sepala ovato-lanceolata, acuta, 9 lin. longa, 4 1/2 lin. lata, straminea, lateralia ad calcar labelli adnata. Petala suborbicularia, 7 lin. longa, 8 lin. lata, straminea. Labellum reniformi-orbiculare, 9 lin. longum, 14 lin. latum, stramineum, aurantiaco-maculatum, basi bicarinatum, calcar gracile, 1 1/4 poll. longum, attenuato-acutum. Columna crassa, alis brevibus et rotundatis.

Trichocentrum triquetrum ROLFE in *Gard. Chron.*, 1891, pt. I, p. 701.

Trichocentrums, though small, are elegant little plants, and a few of the species are decidedly pretty, though for some reason they are but rarely met with in gardens, and are invariably classed as botanical Orchids. The present species, which is a very interesting one, was introduced from Peru by Messrs CHARLESWORTH SHUTTLEWORTH & C°, of Heaton, Bradford, and of Clapham, and flowered for the first time in May 1891. Some little time afterwards it flowered with Messrs LINDEN, L'HORTICULTURE INTERNATIONALE, Brussels, from which source the annexed plate has been prepared.

The genus naturally falls into two sections, the one with flat and horizontal, the other with equitant and vertical leaves. The latter comprises two very closely allied species, *T. iridifolium* LINDL. and *T. plectrophorum* RCHB. F., natives of Guiana, which are possibly only forms of one and the same species, as LINDLEY, as well as FOCKE, evidently thought. The present species also belongs to the same section, but is altogether larger, both in leaf and flower, and has very different petals and lip. It has somewhat of the habit of an *Iris*, or of *Maxillaria iridifolia*, and is about six inches high, the flowers being straw coloured, with the lip spotted and variegated with dull orange, forming a very pretty contrast. The triquetrous ovary strongly recalls *Angraecum Leonis*, though

Mo. Bot. Garden,
1895.

the broad petals and lip give the rest of the flower a very different appearance. The spur, which is composed of a basal extension of the lip together with the adnate bases of the lateral sepals, is one and a quarter inches long. It is a very interesting addition to the genus.

R. A. Rolfe.

***

The cultivation of Trichocentrums in general is often considered difficult, but this we think is erroneous, and in this respect *Trichocentrum triquetrum* is in no way different from other species of the genus. They require a warm temperature and plenty of light, and therefore should be cultivated in a warm house, suspended near the glass, and with little shade except during the hottest time of the day. They require plenty of water during their period of growth, but when in flower they should be kept somewhat drier, like most other Orchids. They may be cultivated in pots or baskets, but the latter are undoubtedly preferable, because more convenient for suspending the plants near the glass. They may also be placed in pots, provided they are not very large, and the pots placed in hanging baskets.

The compost should be formed of equal quantities of sphagnum and fibrous peat, chopped into pieces of an inch or an inch and a half long, and well mixed. A layer of sphagnum must be placed in the bottom of the pan, and on the surface another layer of short pieces and tufts.

It is a good plan to water the plants from time to time with water to which a very small quantity of liquid manure made from cow-dung has been added, and this be continued during the may months of active growth. The liquid should not be allowed to touch the leaves, but should be applied to the compost near the edges of the pans.

As soon as they commence to flower, they may be removed without inconvenience to a cooler house, or even to a dwelling room.



ODONTOGLOSSUM CRISPUM LINDL. var. XANTHOTES HORT.

De Pannemaeker chrom.

PL. CCCXII.

ODONTOGLOSSUM CRISPUM LINDL. var. XANTHOTES HORT.

THE CRISPED ODONTOGLOSSUM, YELLOW VARIETY.

ODONTOGLOSSUM. Vide *Lindenia*, Engl. ed., I, p. 19.

Odontoglossum crispum. Pseudobulbi ovato-compressi, diphylli. Folia lanceolato-linearia, acuta, carinata. Flores in racemum simplicem multiflorum dispositi, nivei v. flavescentes, plus minus maculis, punctis vel radiis roseis, brunneis aut purpureis ornati, patentes, speciosissimi. Bracteae ovato-lanceolatae, acutae, parvae. Sepala lanceolata vel ovato-lanceolata, acuta. Petala subconformia v. saepius latiora, crispo-undulata, saepe denticulata. Labellum unguiculatum, elliptico-oblongum vel subpanduratum, marginibus crispis vel fimbriatis, apice retrorsum decurvo apiculato, carinis a basi in discum ternis approximatis, carina mediana breviori, lateralibus in lamellas disci exeuntibus. Columna arcuata, clavata, alis fimbriatis vel laceris.

Odontoglossum crispum LINDL. in *Ann. Nat. Hist.*, ser. I, XV (1845), p. 256. — *Id. Bot. Reg.*, XXXI, t. 50. — *Id. Fol. Orch. Odont.*, p. 20. — RCHB. F. in *Walp. Ann.*, VI., p. 845. — REICHENBACHIA, ser. I, I, t. I. — VEITCH, *Man. Orch.*, pt. I. p. 24, cum xyl.

O. Alexandrae BATEM. in *Gard. Chron.*, 1864, p. 1083. — *Proc. Roy. Hort. Soc.*, IV, p. 186. — BATEM. *Monogr. Odont.*, tt. 14, 19. — *Bot. Mag.*, tt. 5691, 5697.

O. Bluntii RCHB. F. in *Mohl. & Schlecht. Bot. Zeit.*, 1864, p. 415. — *Fl. des Serres*, t. 1652.

Very numerous are the varieties of the beautiful *Odontoglossum crispum*, which is perhaps the most popular and useful Orchid in cultivation. They range from pure white through innumerable spotted forms to light rosy mauve, with deeper coloured blotches, and in another direction even to light yellow. Most of the forms, however, exhibit spots of different shades of chestnut-brown, red, or mauve-purple, while in the one figured they are golden-yellow, thus affording a decided contrast to the ordinary kinds. It flowered in the collection of Baron SCHRÖDER, The Dell, Egham, some months ago, when the annexed plate was prepared. The yellow is confined to the sepals and lip, the petals being pure white. The spots vary from five to seven on each sepal, and are situated just below the middle. The disc of the lip is yellow, and immediately in front of this is one large deep yellow blotch. It is a very elegant variety.

"The native home of *Odontoglossum crispum*," write Messrs VEITCH in their *Manual of Orchidaceous Plants*, "is on the western branches and spurs of that portion of the eastern Cordillera which lies between lat. 3,45° and 5,50° N., a distance from north to south of about 180 miles, having the city of Bogota about midway between the northern and southern limits. Its vertical range is 7,500 to 8,800 feet elevation, a zone that in those regions is occupied by forests composed chiefly of cinchonaceous trees, walnuts, and evergreen oaks (*Quercus tolimensis*). It is in the occasional openings of this forests, and especially along the numerous mountain streams, that *O. crispum* occurs; it grows chiefly on the

trunks and principal branches of the trees where there is partial shade, and occasionally in full exposure, but never in the dense primæval forest. "

Associated with it in this locality are *O. gloriosum*, *O. Lindleyanum*, and *O. luteo-purpureum*, and it is a noteworthy fact that it has hybridised with each of them. With the first it yields *O.* × *Andersonianum* and its innumerable varieties, including *O.* × *Ruckerianum*, *O.* × *Jenningsianum*, *O.* × *limbatum*, *O.* × *hebraicum*, and a few others. With the second it yields *O.* × *Coradinei*, and with the third *O.* × *Wilckeanum*, both of which are also very variable, and by no means rare in cultivation. It is very interesting to observe that the last named hybrid has also been raised artificially, thus confirming its parentage.

It would be very interesting to know the species of insects which visit these flowers and thus effect their cross-fertilisation, a point which does not appear to have been recorded.

R. A. Rolfe.

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III.

1892.

Mo. Bot. Garden,
1895.

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SACCOLABIUM HENDERSONIANUM RCHB. F.

PL. CCCXIII.

SACCOLABIUM HENDERSONIANUM RCHB. F.

Mr HENDERSON'S SACCOLABIUM.

SACCOLABIUM. Sepala subaequalia, libera, patentia v. erecto-patentia, plana v. concava, lateralia interdum basi parum latiora, posticum interdum fere cucullatum. Petala sepalis subsimilia, interdum latiora, rarius angustiora. Labellum ad basin columnae sessile, basi calcaratum v. saccatum, calcare descendente recto v. rarius recurvo intus nudo; lobi laterales ad latera calcaris erecti, saepius parvi, interdum latiusculi v. vix prominentes, medius patens v. erectus, polymorphus, nunc parvus dentiformis, nunc oblongus linguiformis v. transverse dilatatus, rarius calcare longior; discus ad os calcaris interdum lamina parva appendiculatus. Columna brevis, lata, nunc brevissima, apoda, exalata v. angulis parum prominulis; clinandrium parum prominens, truncatum. Anthera terminalis, opercularis, incumbens, convexa, antice saepius obtuse acuminata, unilocularis v. imperfecte bilocularis; pollinia 2, subglobosa, integra sulcata v. bipartita, inappendiculata, anthera dehiscente stipiti lineari v. tenui affixa, glandula saepius parva. Capsula saepius oblonga, rarius elongata, interdum globosa v. ovoidea, erostris, costis tenuibus v. prominulis.

Herbae epiphyticae, caulibus foliatis non pseudobulbosis. Folia disticha, patentia, coriacea, carnosa v. rarius tenuia, plana v. rarius teretia, vaginis persistentibus caulem obtegentibus. Pedunculi laterales simplices v. ramosi. Flores nunc majusculi, minores tamen quam in *Vanda*, racemum densum speciosum recurvum formantes, nunc dissiti v. parvi, v. in racemo tenui simplici v. paniculato-ramoso minimi, breviter pedicellati. Bracteae parvae.

Species circa 40, Indiae orientalis et Archipelagi Malayani incolae.

Saccolabium BLUME, *Bijdr. Fl. Nederl. Ind.* (1825), p. 292. — BENTH. et HOOK. F. *Gen. Plant.*, III, p. 578.

Saccolabium Hendersonianum. Caulis brevissimus. Folia disticha, ligulata, apice emarginato-bidentata v. integra, carnosa, carinata. Racemus erectus, multiflorus, breviter pedunculatus. Bracteae parvae, lato-triangulares. Flores parvi, rosei. Sepalum posticum orbiculatum, concavum; lateralia longiora, late obovato-oblonga. Petala obovata, sepalo postico paullo minora. Labellum fere ad calcar cylindraceum compressum pallidum rectum obtusum reductum, ore tridentatum v. tricuspidatum, laciniis lateralibus angulatis minutis, lacinia media minuta. Columna brevissima.

Saccolabium Hendersonianum RCHB. F. in *Gard. Chron.*, 1875, pt. 2, p. 356. — *Bot. Mag.*, t. 6222. — WARN. et WILL. *Orchid Album*, VI, t. 275. — VEITCH *Man. Orch. Pl.*, pt. VII, pp. 115, 116, cum xyl.

This charming little species was imported by Messrs E. G. HENDERSON & SONS, of the Wellington Nursery, St. John's Wood, London, and was described by Prof. REICHENBACH in 1875, that author stating that it had been known for two or three years as the new Bornean Saccolabium. From the *Botanical Magazine*, however, where it was figured shortly afterwards, we learn that the species had been known in Europe ever since the year 1862. CURTIS has since gathered it in north-west Borneo, and states that it prefers the neighbourhood of rivers and streams, where it grows on trees of *Lagerstroemia indica*, generally in partial shade, but sometimes fully exposed. In its native home, it flowers very freely, and one of the prettiest floral sights he met with in that region was a dead leafless tree, overhanging a stream, covered with *Saccolabium Hendersonianum* in full bloom.

It is nearly allied to *S. roseum* LINDL., a native of Ceylon, which agrees with the present species in having rosy flowers, with a lip almost reduced to an elongated compressed spur, the three lobes being excessively reduced, and the

front one only present as a minute tooth. The Ceylon species, however, is considerably smaller than the Bornean one.

The annexed plate is prepared from a plant imported by Messrs Linden, L'Horticulture Internationale, Parc Leopold, Brussels, from Borneo, which flowered during last summer.

From a horticultural standpoint, our present species may be classed with *S. ampullaceum*, *S. curvifolium* and *S. miniatum*, all of which have brilliantly coloured flowers, and are worthy of a place in the most select collection where warm Orchids are grown. They take up but little room, and if well grown are very floriferous, while their brilliant colours give them a most attractive appearance. The Ceylon species mentioned above, *S. roseum*, is considerably smaller still, and does not appear to be in cultivation.

R. A. Rolfe.

THE CULTURE OF PHALAENOPSIS.

The genus Phalaenopsis is one of the most splendid in the whole Orchid family; the majestic beauty of their forms, the exquisite grace of certain details of the lip and the marvellous colour of the majority of the species, give them an inestimable value, which is the more enhanced by reason of their time of flowering, namely, in winter. Phalaenopsis, therefore, would have all the possible title to preference by amateurs of Orchids if their culture was only better understood. They, still, give cause with many for regrettable mistakes and gropings in the dark, which might easily be avoided. We propose to give an outline of a system adopted by the Horticulture Internationale, which has produced excellent results.

We cultivate them both in pots and in baskets, but the latter method appears preferable, and is the one which we should recommend. Pitch pine is preferable to all other woods for the construction of the baskets, and by plunging it for some moments in boiling oil before using it, we have obtained a wood less subject to absorb humidity and to become covered with fungus.

The compost should consist of fibrous peat, which is selected in long pieces and carefully washed, and an equal quantity of sphagnum, lightly chopped, which is disposed by preference on the upper part.

The selection of a house is of great importance. It is advisable to select a span roof, or a small lean-to, tight, so that a close atmosphere may be preserved, in a temperature from 68° to 77°, very near the glass, with the smallest amount of air, and the largest of light which it is possible to have, and an atmosphere rather humid.

We have seen, however, Phalaenopsis thrive very well in an ordinary rather

(To be continued on p. 8.)



CIRRHOPETALUM AMESIANUM ROLFE.

PL. CCCXIV.

CIRRHOPETALUM AMESIANUM ROLFE

THE HON. F. L. AMES' CIRRHOPETALUM.

CIRRHOPETALUM. Sepalum posticum liberum, breve; lateralia multo longiora, angusta v. acuminata, interdum longe caudata, basi parum dilatata, columnae pedi adnata, parallele patentia v. dependentia, interdum alte cohaerentia. Petala sepalis lateralibus multo breviora, saepius postico subsimilia, ovata v. lanceolata, integra v. eleganter ciliato-serrata. Labellum basi contractum, cum pede columnae articulatum v. mobile, in pedem incumbens, superne recurvum, integrum v. ad basin laminae utrinque auriculatum. Columna erecta, brevis, basi in pedem producta, superne bialata, alis utrinque in dentem v. brachium erectum productis; clinandrium postice-truncatum v. in dentem brevem productum. Anthera terminalis, opercularis, incumbens, depresso-hemisphaerica, inappendiculata, decidua; pollinia cerea, ad normam 4, per paria in loculos segregata, saepius tamen cujusve paria plus minus connata ita ut duo tantum in anthera appareant, inappendiculata. Capsula ovata v. oblonga, nunc fere fusiformis.

Herbae caule seu rhizomate repente radicante, habitu *Bulbophylli*. Pseudobulbi ad axillas vaginaram scariosarum apice unifoliata. Scapi floriferi ad latera pseudobulborum aphylli, multivaginati. Flores saepe speciosi, racemo in umbellam contracto, circa apicem scapi penduli, raris pedicellis abbreviatis subcapitati v. pedicellis dissitis laxius racemosi.

Species ad 40, pro maxima parte Indiae Orientalis v. Archipelagi Malayani incolae, cum pauca Chinensi, uno Mascarensi et insularum maris Pacifici, altera parum anomala Australiana.

Cirrhopetalum LINDL. *Bot. Reg.*, X (1824), sub t. 832. — BENTH. et HOOK. F. *Gen. Plant.*, III, p. 504.

Cirrhopetalum Amesianum. Pseudobulbi tetragono-ovoidei, monophylli. Folia oblanceolato-oblonga, obtusa, basi subattenuata. Scapi suberecti, graciles, floribus umbellatis. Umbellae circa 6-9-florae. Bracteae subulatae, acutae, 2 lin. longae. Pedicelli 2 1/2-3 lin. longi. Sepalum posticum concavum, ovatum, setiferum, ciliatum, 4 lin. longum, trinervium. Sepala lateralia connata, 1 1/4 poll. longa, 4 1/2 lin. lata, apice brevissime bidentata. Petala subulato-lanceolata, setifera, ciliata, 2 1/2 lin. longa, trinervia. Labellum carnosum, oblongum, acutum, recurvum, 1 1/2 lin. longum. Columna brevis, alis brevibus rotundatis obtusissimis.

Cirrhopetalum Amesianum ROLFE, *supra*.

This is a very pretty Cirrhopetalum, native of Dutch India, introduced by Messrs LINDEN, L'HORTICULTURE INTERNATIONALE, Parc Leopold, Brussels, with whom it has recently flowered. It produces slender umbels of from about six to ten flowers. The united lateral sepals are light rosy-purple, passing into yellowish white on the margins and towards the apex. The rest of the flowers are yellow, except the lip and the ciliae on the dorsal sepal and petals, which are brownish red. It is dedicated to the HON. F. L. AMES, of North Easton, Massachusetts, a liberal patron of horticulture, and the possessor of one of the finest Orchid collections in cultivation.

It is not very easy to speak of the exact affinities of this plant, as the genus is in some deal of confusion at present. But it belongs to that section of the genus in which the dorsal sepal and petals are either ciliate or appendaged; and among these, it probably stands somewhere near *C. Cumingii* LINDL., though that species possesses many important differences, and is easily distinguished by the different lateral sepals and petals. In looking through the different species of the group, I do not see any with which it can easily be confused.

This genus is a very interesting one, though but few of its species can be considered very showy. The long lateral sepals, which are generally united, and differ from the rest of the flower in colour, together with the curious way in which the flowers all radiate from the centre, tend to give the inflorescence a singular and quite unique appearance, while the delicately balanced lips, which oscillate backward and forward on the slightest touch, are equally peculiar.

Several novelties have recently appeared in different collections, and a short time ago perhaps the finest species in the genus, viz. *C. Colettii* Hemsl., flowered for the first time at Kew. It is therefore apparent that the genus is larger than has hitherto been supposed, and as the great Malayan region is not nearly exhausted, some further additions may yet be expected.

R. A. Rolfe.

(*Continued from page* 6.)

broad house, thanks to a particular very practical arrangement, which we would recommend to amateurs who have only one or two houses. Above the tables, below the baskets, was placed a narrow zinc trough containing water, the evaporation constantly arising from which supplies the necessary humidity. It is not necessary to have a deep trough; two inches is sufficient, and it will be the more easy to remove, when required.

Another recommendation is of great importance. Watch attentively for vermin, which frequently invade the compost, and which should be relentlessly hunted down. The best way is to place, on the hot water pipes, a layer of pieces of tobacco, and to sprinkle them three or four times a day. Under these conditions they will soon disappear, and will not come in again from outside.

When the flower-spike begins to push up, the basket should be lowered a little, to allow of its development. From this time we give a little less water, until the flowering season is over, after which the plants should be kept as dry as possible. The resting period occupies six or eight weeks, during which the waterings should be reduced to a strict minimum, all the humidity necessary being just sufficient to keep the sphagnum alive, and the leaves from shrivelling, this being better given to the atmosphere by light syringings of the wooden baskets than by direct waterings.

When the leaves appear to shrivel and fade away, it is best to give the plant a little water.

All the waterings should by preference be given with rain water, as in the case of all other Orchids.

(*To be continued.*)



STANHOPEA WARDII LODD. var. VENUSTA LINDL.

PL. CCCXV.

STANHOPEA WARDII LODD. var. VENUSTA LINDL.

Mr WARD'S STANHOPEA, BEAUTIFUL VARIETY.

STANHOPEA. Sepala libera, patentia, lata v. oblonga, carnosa, subaequalia v. lateralia latiora. Petala sepalis similia v. angustiora, interdum undulata. Labellum basi columnae affixum, continuum v. vix brevissime ei connatum, patens, crasse carnosum, saepe undulatum v. subtortum; lobi laterales unguem marginantes v. erecti, saepe in massam solidam incrassati, *hypochilium* formantes globosum oblongum v. calceiforme, basi interdum bicornutum; lobus medius nunc brevissimus integer ab hypochilio vix distinctus, nunc evolutus continuus v. articulatus, *epichilium* integrum v. trilobum formans, v. basi lobis v. cornubus 2 distinctis *mesochilium* formantibus instructus. Columna erecta v. incurva, saepius longiuscula, apoda, superne v. apice membranaceo-marginata v. bialata; clinandrium breve, antice saepius prominule bidentatum v. bicornutum. Anthera terminalis, opercularis, incumbens, convexa v. subglobosa, unilocularis; pollinia 2, cerea, anguste oblonga, apice attenuata, inappendiculata, anthera dehiscente stipiti plano saepius oblongo affixa, glandula squamiformi. Capsula, ubi nota, longe fusiformis.

Herbae epiphyticae, caulibus brevissimis multivaginatis unifoliatis mox in pseudobulbum carnosum incrassatis. Folium amplum, plicato-venosum, in petiolum contractum. Scapi inter pseudobulbos deflexi v. penduli, vaginis spathaceis stipati, simplices. Flores magni, in racemo laxo pauci, pedicellati. Bracteae membranaceae, spathaceae, nunc pedicellum nunc ovarium ipsum involventes.

Species ad 20, Americae tropicae a Brasilia usque ad Mexicum incolae.

Stanhopea FROST ex HOOK. *Bot. Mag.*, LVI (1829), tt. 2948-9. — BENTH. et HOOK. F. *Gen. Plant.*, III, p. 549.

Ceratochilus LINDL. in LODD. *Bot. Cab.*, XV (1828), t. 1414.

Stanhopea Wardii. Pseudobulbi ovoidei, monophylli a vaginis increscentibus stipati. Folia longe petiolata, elliptico-lanceolata, acuminata. Racemus pendulus, pauci multiflorus, plurivaginatus. Bracteae lanceolato-oblongae, acutae, quam ovario bene breviores. Sepala subrotundo-oblonga, acuta, concava, lateralia basi alte connata. Petala lanceolata, revoluta, sepalis multo minora. Labelli hypochilium exacte oblongum, depressum, sessile, antice intrusum, basi utrinque angulatum; mesochilium bicornutum carnosum, fissum, vix dentatum, cornubus falcatis incurvis; epichilium subrotundo-ovatum, integrum. Columna late alata.

Stanhopea Wardii LODD. ex. *Lindl. Sert. Orch.* (1838), t. 20. — LINDL. *Fol. Orch. Stanhop.*, p. 3. — *Bot. Mag.*, t. 5289. — KN. et WESTC. *Fl. Cab.*, II, p. 181, t. 90. — RCHB. F. in *Walp. Ann.*, VI, p. 588. — ID. *Xen. Orch.*, I, p. 122.

S. aurea LODD. ex. *Lindl. Bot. Reg.*, XXVII, *Misc.*, p. 11.

S. amaena KLOTZSCH in *Otto et Dietr. Allg. Gartenz.*, XX (1852), p. 273.

S. inodora var. amaena LINDL. *Fol. Orch. Stanhop.*, p. 2.

Var. venusta. Flores aurei, concolori.

Var. venusta LINDL. *Fol. Orch., Stanhop.*, p. 4 (in nota).

Stanhopea Wardii was originally described more than half a century ago, from a specimen sent to England from La Guayra by Mr WARD, which flowered with Messrs LODDIGES, of Hackney. It also flowered about the same time with Mr Barker, of Birmingham, the plant being obtained from Messrs Low & C°, of Clapton. It is closely allied to *S. Ruckeri* LINDL., but that species has the hypochile distinctly narrowed at the base, without lateral teeth, a very strong inflexed tooth in which the wider fissure of the mesochile terminates, and paler colour. The latter character, however, taken by itself, is not absolute, for there are forms of *S. Wardii* with pallid segments

covered with small rosy ring-like spots, and others with orange-yellow segments with fewer spots. Both of these have a large blackish-purple blotch on either side of the base of the hypochile, but there is another form without these markings, and with the segments wholly orange-yellow, which is LINDLEY's variety *venusta*, represented in the annexed plate. The origin of this variety does not appear to have been recorded, but there is a specimen in LINDLEY's Herbarium, labelled " Mexico, H. H. S. 1839, " which may mean that it flowered in the Horticultural Society's Garden in that year. The annexed plate, which appears to represent a form substantially identical with the original one, was prepared from a plant which flowered with Messrs LINDEN, L'HORTICULTURE INTERNATIONALE, Parc Leopold, Brussels, during last summer. From the variety *aurea* it only differs in the absence of the eye-like spots on the base of the hypochile.

Some very interesting observations with respect to this species were made by LINDLEY in his original description. He pointed out that " the inside of the hollow base of the lip is covered over with numerous round tubercles, which give it the singularly rich and sparkling appearance of a grotto lined with purple and yellow spar. " A section of these, magnified about 500 diameters, was represented on the plate, and the author remarked that these tubercles consist of cellular tissue arranged with great regularity, and there is no distinct cuticle. Some of the cells are filled with yellow colouring matter or chlorophyll of a granular nature, others contain a red fluid. The yellow in the cells next the surface is paler and less granular than that in the inner cells. Nothing was then known of the use of this particular arrangement, but it has since been ascertained that this very substance is eaten by bees, who visit the flowers for the purpose of obtaining it, and there is little doubt that in this way the pollen is carried about from flower to flower, and fertilisation effected.

Dr CRÜGER remarks that in Trinidad there are three plants which exhale a similar perfume, namely *Coryanthes macrantha*, *Stanhopea grandiflora*, and *Gloxinia maculata*, and that all are visited by the same bee, a species of *Euglossa*. But the smell only indicates to them where food may be obtained, and in the case of the Orchids, this consists of the cellular tissue at the base of the hypochil, which they gnaw away greedily, and which is also relished by some other insects, and among them a species of cockroach. The flowers are specially fragrant in the early morning, at which time the bees are particularly active. It is well known that without the visits of insects, many of these Orchids never produce seeds, and here we see the means taken by the plants to secure these visits, first by providing for the insects a supply of food, and then exhaling a perfume to attract them to the place where it may be found.

R. A. ROLFE.



LYCASTE LASIOGLOSSA RCHB. F.

PL. CCCXVI.

LYCASTE LASIOGLOSSA RCHB. F.

THE HAIRY-LIPPED LYCASTE.

LYCASTE. Sepala subaequalia, erecto-patentia, lateralia paullo latiora, basi cum pede columnae mentum saepius breve interdum fere saccatum formantia. Petala nunc sepalis similia nisi minora, nunc saepius distincte breviora latioraque. Labellum columnae pedi affixum, sessile v. unguiculatum, sepalis brevius; lobi laterales ad basin v. ad apicem unguis erecti, lati v. anguste falcati, medius parvus latus v. elongatus angustusque, patens, integer v. varie ciliatus v. fimbriatus; discus medio appendice transversa v. callo polymorpho instructus. Columna longiuscula, arcuata, semiteres, exalata v. apice angustissime bialata, basi in pedem brevem producta; clinandrium breve v. rarius membranaceo-dilatatum. Anthera terminalis, opercularis, incumbens, valde convexa, unilocularis; pollinia 4, oblonga v. ovoidea, per paria sibimet arcte applicita, inappendiculata, anthera dehiscente stipiti longo lineari affixa, glandula parva. Capsula oblonga v. fusiformis, erecta.

Herbae epiphyticae v. terrestres caulibus brevibus paucifoliatis basi vaginatis mox in pseudobulbos carnosos incrassatis. Folia ampla, plicato-venosa. Scapi ad latera pseudobulborum erecti uniflori v. rarius laxe 2-3 flori. Flores magni, saepius nutantes.

Species ad 25, Americae tropicae a Peruvia usque ad Mexicum et Indiam occidentalem incolae.

Lycaste LINDL., *Bot. Reg.*, XXIX (1843), *Misc.* p. 14. — BENTH. et HOOK. F. *Gen. Plant.*, III, p. 547.

Lycaste lasioglossa. Pseudobulbi ovoidei, compressi. Folia membranacea, elliptico-lanceolata, acuminata, plicata. Scapi virides, supra medium vaginati, vaginis lanceolatis acuminatis. Bracteae ovario breviores, virescentes, obtusae. Sepala patentia, anguste oblonga, acuta, pallide testacea; lateralia ima basi araneoso-pilosa. Petala sepalis ter breviora, oblonga, obtusa, fornicata, aurea, apicibus recurvis. Labellum petalis aequilongum, aureum, purpureo-punctatum, lobis lateralibus angustis obliquis obtusis, mento brevissimo, intermedio oblongo-ligulato obtuso dense hirsuto, disco callo inter lobis lateralibus triangulari ovato apice obtuso bidenticulato. Columna elongata, gracilis, aptera.

Lycaste lasioglossa RCHB. F. in *Gard. Chron.*, 1872, p. 215. — *Bot. Mag.*, t. 6251.

Lycaste lasioglossa was originally introduced from Guatemala by Messrs JAMES VEITCH & SONS, of Chelsea, and flowered with them in February 1872, when it was described by Prof. REICHENBACH. " This very interesting species, " writes the author, " looks as if intermediate between *L. Schilleriana* and *L. macrophylla*, it having the general aspect of the last, the short petals of the first, and a totally peculiar lip, with the wonderfully bearded middle lacinia, which is quite novel. Bract exceeding the short ovary. Sepals outside greenish, with brownish borders, of a beautiful dark cinnamon-brown inside, with an arachnoid hairy cover at the very base; petals and lip yellow, the last with some purplish dots covered by the beautiful hyaline villous hairs; column whitish yellow, with some purplish streaks a its base. " Some little time afterwards it was figured in the *Botanical Magazine*, from the same source.

The species of this group are rather difficult to distinguish satisfactorily. First comes the old *L. macrophylla* LINDL., a very variable species, which certainly includes *L. plana* LINDL., formerly considered distinct. This species is rather widely diffused, as it ranges along the Andes from Peru to Venezuela.

Then comes *L. Dowiana* Endr. & Rchb. f., from Costa Rica, which has smaller flowers and a narrower lip, but very similar colours. *L. xytriophora* Linden & Rchb. f., well figured at t. 131 of the *Refugium Botanicum*, is a native of Ecuador, and very closely allied, though separated by certain botanical details. *L. lasioglossa* Rchb. f., the species here figured, is readily distinguished by its hairy lip, though very similar in other respects. *L. Schilleriana* Rchb. f., also well figured at t. 134 of the *Refugium Botanicum*, is always easily distinguished by its very long sepals. It also appears to be rather widely diffused, having been met with in Surinam, Brazil and New Granada. There are also two or three others rather nearly allied, though perhaps not easily confounded with the ones just mentioned.

The plant here figured has flowered with M. A. Van Imschoot, a well-known Belgian amateur, who obtained for it a first-class Certificate of Merit at a meeting of L'Orchidéenne, of Brussels, on September 13 last.

R. A. Rolfe.

CATTLEYA ALEXANDRAE Lind. — The collectors of L'Horticulture Internationale announce the discovery of a new and most striking Cattleya.

We have dedicated it to H. R. H. the Princess of Wales, paying this homage to an illustrious patroness of horticulture, to the Princess with whose sorrow England and the whole world respectfully sympathize at the present time under her painful bereavement, and also to the great country in which horticulture, and especially Orchid culture, is so deservedly patronised, and to which we are indebted for the kind welcome given to our efforts in the cause of general knowledge and progress.

L. L.

LINDENIA

English edition

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PART XIV. MARCH 1892.

LINDENIA

ICONOGRAPHY

OF ORCHIDS

CONDUCTED BY

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and R. A. ROLFE.

THE COLOURED PORTRAITS BY

P. DE PANNEMAEKER, A. GOOSSENS and G. SEVEREYNS.

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DENDROBIUM BIGIBBUM LINDL. var. ALBO-MARGINATUM L. LIND.

PL. CCCXVII.

DENDROBIUM BIGIBBUM LINDL. var. ALBO-MARGINATUM L. LIND.

THE DOUBLE-SPURRED DENDROBIUM, WHITE-MARGINED VARIETY.

DENDROBIUM. Vide *Lindenia*, Engl. ed., vol. I, p. 37.

Dendrobium bigibbum. Pseudobulbi elongati, erecti, apice 3-5-phylli. Folia oblongo-lanceolata, subacuminata. Racemi suberecti, elongati, multiflori. Flores speciosi, roseo-purpurei. Bracteae minutae. Sepala lanceolato-oblonga, acuta. Petala sepalis multo latiora, patentia v. recurva, rhombeo-rotundata, obtusa. Labellum trilobum, lobis lateralibus rotundatis incurvis, lobo medio late oblongo obtuso, callo oblongo papilloso albo, calcare recto obtuso basi inferne in sacculum subhemisphericum dilatato. Columna brevis, ima basi bicallosa.

Dendrobium bigibbum LINDL. in *Paxt. Fl. Gard.*, III (1852-3), p. 25, fig. 245. — *Bot. Mag.*, t. 4898. — WARN. *Sel. Orch. Pl.*, ser. 2, t. 8. — *Fl. d. Serres*, t. 1143. — BATEM. *Sec. Cent. Orch. Pl.*, t. 169. — WARN. & WILL. *Orchid Album*, I, t. 38. — BENTH. *Fl. Austral.*, VI, p. 277. — *Fl. & Pomol.*, 1873, p. 165, cum. xyl. — *Fl. Mag.*, n. s., 1880, t. 386. — *Ill. Hort.*, XXX, p. 25, t. 476. — VEITCH *Man. Orch. Pl.*, pt. 3, pp. 22, 23, cum. xyl. — *Orchidophile*, 1891, p. 208.

Var. superbum BURBIDGE *Fl. Mag.*, n. s., 1876, t. 229. — RCHB. F. in *Gard. Chron.*, 1878, pt. 2, p. 748.

Var. candidum VEITCH *Man. Orch.*, pt. 3, p. 23.

Var. albo-marginatum. Flores irregulariter albo-marginati.

Var. albo-marginatum LINDEN in horto.

Dendrobium bigibbum was originally described and figured by Dr LINDLEY, in PAXTON'S *Flower Garden*, in 1852, from a plant which flowered with Messrs LODDIGES, of Hackney, in January of that year. In 1856 it was figured in the *Botanical Magazine*, from a specimen communicated by that firm in November of the previous year. The plant had been received from Dr THOMSON, who found it in Mount Adolphus Island, in Torres Straits, close to Cape York, the most northerly point of Queensland. In 1865 a large consignment was sent from the same locality by the late Mr JOHN GOULD VEITCH, and in 1876 GOLDIE, then on his way to New Guinea, met with it, and sent a batch of plants to Mr B. S. WILLIAMS, of Upper Holloway. This was from an island in the Torres Straits, but which one is not stated. Probably it grows in several of the islands, as we know from dried specimens that it occurs in the adjacent Thursday Island.

Although not described until 1852, it appears to have been known nearly thirty years earlier, for according to REICHENBACH there is a beautiful drawing by FRANCIS BAUER preserved at the British Museum, which shows that it flowered at Kew as early as the year 1824; so that it must have remained undescribed for over a quarter of a century.

The species is not subject to much variation, though two or three varieties have been described. The first of these is the variety *superbum*, which is described as having larger and more brightly coloured flowers than the ordinary form. It

was introduced by the late Mr J. G. Veitch, in 1865. The variety *candidum* has white flowers with a purple blotch on each side of the crest of the lip. The variety *albo-marginatum* is a recent introduction. It flowered with Messrs Linden, L'Horticulture Internationale, Brussels, during December last. It owes its distinctive character to the absence of colour near the margins of the segments. The petals are somewhat flaked with white, chiefly near the circumference, where it forms an irregular white margin. The sepals and lip have a trace of the same peculiarity, though less distinct than in the case of the petals. The species flowers during the autumn and winter, from September to February, and even later.

Dendrobium bigibbum is the nearest known ally of *D. Phalaenopsis*, but is always readily distinguished by its smaller flowers, with more obtuse segments, and by its very distinct white oblong papillose crest. They belong to a small group of species whose peculiarity is the possession of a kind of double spur, — that is the ordinary pouch of the genus Dendrobium is prolonged behind into a short conical spur, — to which peculiarity the present species owes its name.

R. A. Rolfe.

THE CULTURE OF PHALAENOPSIS.

(Continued from page 6.)

We have spoken generally, but *P. amabilis*, *P. grandiflora*, *P. Stuartiana* and *P. Schilleriana* are particularly the kinds which are the most remarkable, and the most popular. Another species, *P. Lowii* (of which the *Lindenia* gave a representation in a recent number) deserves special attention, because of a peculiarity which is the cause of much anxiety to cultivators. It loses its leaves every year after flowering, and many gardeners, thinking the plants dead, might throw them away when in this condition, which would be an error, as we think it advisable to point out.

It is at the end of the resting period, before the return of the season of growth, when they present the most favourable condition for the process of re-potting. The roots, which during active growth are fixed against the sides of the basket, and cling to the bars, relax somewhat, and become disengaged. At the end of this period they can be detached very easily, and they may then be re-potted without fear of injuring them.

The general re-potting may be done when the plant has filled its basket, and requires space, we must therefore take a basket larger than the preceding one, but not too large. Having chosen the longest pieces of the fibre, we place it first in the basket, without drainage. It is advantageous to roll it in little balls; the air circulates better in this way, and the drainage keeps in better condition.

(To be continued on p. 16.)



HABENARIA MILITARIS RCHB. F.

A. Goossens fin. *G. Severeyns c*

PL. CCCXVIII.

HABENARIA MILITARIS RCHB. F.

THE MILITARY HABENARIA.

HABENARIA. Sepala subaequalia, libera v. ima basi cohaerentia, erecto-conniventia v. saepius lateralia v. omnia patentia. Petala sepalis saepius minora, sed polymorpha, interdum profunde biloba. Labellum cum columna continuum saepeque brevissime connatum, patens v. pendulum, ima basi breviter v. longe calcaratum, lamina patente v. pendula, angusta v. lata, indivisa v. 3-5-fida, lobis lateralibus interdum pectinato-ciliatis v. fimbriatis. Columna brevissima, apoda, rostello inter loculos antherae saepius dente v. lobo brevi erecto aucto, stigma bilobum v. stigmata saepius 2 adnata v. in processus breves nunc brevissimos interdum valde elongatos laeves v. papillosos producta; clinandrium erectum, antherae loculos non excedens, interdum iis brevius. Antherae connectivum a clinandrio non distinctum, loculis elevatis interdum latis adnatis, parallelis v. divergentibus, apicibus (inferis) nunc brevissimis adnatis, nunc elongatis horizontaliter liberis v. porrectis; pollinia in quoque loculo grosse v. tenuiter granulosa, caudiculis brevibus v. valde elongatis, anthera dehiscente glandulis nudis affixis. Capsula ovoidea v. oblonga, erecta v. incurva, erostris v. in rostrum producta.

Herbae terrestres, habitu *Orchidis,* tuberibus indivisis v. rarius digitatim lobatis, v. fibrae radicales carnosae parum incrassatae. Flores parvi v. magni, in spica sessiles v. in racemo breviter pedicellati bracteis variis.

Species notae fere 400, per regiones temperatas calidioresque utriusque orbis latissime dispersae.

Habenaria WILLD. *Sp. Pl.,* IV (1805), p. 44. — BENTH. & HOOK. F. *Gen. Plant.*, III, p. 624.

Habenaria militaris. Spithamea et altior : foliis linearibus acutis dimidium pollicem latis; racemo plurifloro; bracteis inferioribus ovaria pedicellata aequantibus oblongo-ligulatis acuminatis; sepalo dorsali naviculari cum tepalis lineari-ligulatis galeatis; sepalis lateralibus oblongis acutis reflexis; labello trifido, laciniis lateralibus oblongo-trapezoideis divaricatis, lacinia antica brevi unguiculata porrecta oblonga bifida laciniis triangulis, calcari filiformi compresso acuto ovario pedicellato longiori; rostelli lacinia mediana triangula corniformi, stigmatis cruribus porrectis.

Habenaria militaris RCHB. F. in *Gard. Chron.*, 1886, pt. 2, p. 518. — *Orchidophile,* 1887, p. 48, cum ic. — WARN. & WILL. *Orchid Album,* VI, t. 281. — *Revue Hort.*, 1888, p. 396, cum ic.

H. pusilla RCHB. F. *Otia Bot. Hamb.* (1878), p. 33.

This beautiful species was originally described by REICHENBACH in 1878 under the name of *Habenaria pusilla*, from a dried specimen collected in the mountains of Phu-Quoc, in Cambodia, by M. GODEFROY LEBEUF. Very little appears to have been known about it at that time, for there is no mention of its brilliant colours in the original description, and nothing further appears to have been known until 1886, when M. REGNIER, of Fontenay-sous-bois, Seine, sent to REICHENBACH a living plant in flower, which he pronounced to be identical, though, no longer considering the name *pusilla* appropriate to the species, he re-named it *H. militaris*, in allusion to the colour of its lip, which is of a brilliant scarlet, like a soldier's jacket. The plants were obtained by M. REGNIER, in Cochin China, probably in the mountainous region of Tay-Ninh.

M. ANDRÉ, however, in the *Revue Horticole*, states that M. REGNIER discovered the plant in the Philippines, though it seems improbable that it can grow in two such widely different localities, and as the former habitat has been confirmed, I fear the latter has originated through some accidental mistake.

It is indeed a beautiful species, and presents a strong contrast in the colour of its flowers, in which respect REICHENBACH compares it with *Epidendrum pseudepidendrum*. The leaves are elongate, and of a light greyish green, reticulated with darker nerves. The erect raceme bears a number of largish flowers, which bear some resemblance to those of *Orchis purpurea* in shape. The sepals and petals are light green, the latter being somewhat paler. The lip, which is large and deeply three-lobed, with the middle lobe again deeply divided, is of a brilliant scarlet, and the spur, which is longer than the rest of the flower, greenish white. Both the glands of the pollinia and the stigmatic processes are also bright red.

It is very distinct from every other known species, though REICHENBACH compares it with the Cingalese *H. crinifera* LINDL., which has white flowers and a fimbriate lip. The most closely allied species known to me is the Malayan *H. carnea*, which appeared but a few months ago. This has flowers of a pale delicate flesh colour, very much like those of *H. militaris* in shape, and the leaves are also variegated, but in a different way.

The annexed plate was prepared from a specimen kindly sent by Sir TREVOR LAWRENCE, Bart., M. P., of Burford Lodge, Dorking.

R. A. ROLFE.

(Continued from page 14.)

The plant may then be started into growth. We commence by giving a moderate supply of water at first, gradually increasing the amount, until in about two or three weeks the normal quantity is given.

When the sphagnum is growing vigorously, it often produces long shoots, which attain a considerable development, and forms above the sides of the basket a sort of elevated dome. We advise strongly to cut off the greater part of this growth, which injures the roots. Phalaenopses are plants which require plenty of air about the roots, which are invariably found outside the compost, and when these are covered with sphagnum they cannot but be overrun with this green matter, which forms a thick layer, and prevents transpiration and osmosis to be carried on as it should be. It is therefore very useful to remove from time to time with the scissors the tops of the sphagnum which elevate themselves above the edges of the basket. This operation should be repeated three or four times a year.

For the cultivation of Phalaenopsis in pots we should employ the same compost. The conditions of culture are nearly the same, but we have proved more than once that if we obtain in pots larger and stronger leaves, the plants are not so floriferous. The same plants of *P. Schilleriana* which would give with difficulty a short inflorescence when cultivated in a pot, have furnished three or even four when in a basket. It is this method which we recommend exclusively.

(To be continued on p. 18.*)*

SIALORSIS MARCOLTIANA Rolfe



PL. CCCXIX.

STAUROPSIS WAROCQUEANA ROLFE.

M. G. WAROCQUÉ'S STAUROPSIS.

STAUROPSIS. Sepala subaequalia, libera, patentissima. Petala sepalis similia. Labellum basi columnae affixum, continuum, patens, concavum, ecalcaratum, angustum; lobi laterales breves, medius longiusculus, concavus, apice inflexus. Columna brevis, crassa, exalata, apoda; clinandrium truncatum, parum prominens. Anthera terminalis opercularis, incumbens, semiglobosa, imperfecte bilocularis; pollinia 2, cerea, ovoideo-globosa, sulcata v. bipartibilia, inappendiculata, anthera dehiscente stipiti plana affixa, glandula squamiformis. Capsula oblongo-clavata, erostris crassiuscula, costis prominulis.

Herbae epiphyticae, caulibus foliatis non pseudobulbosis. Folia disticha, patentia, coriacea, plana. Pedunculi laterales, racemo nunc brevi simplici floribus paucis majusculis, nunc longo laxe ramoso floribus sat numerosis minoribus.

Species circa 7, Indiae orientalis et Archipelagi Malayani incolae.

Stauropsis RCHB. F. in *Hamb. Gartenz.*, XVI (1860), p. 117. — BENTH & HOOK. F. *Gen. Plant.*, III, p. 572.

Fieldia GAUDLICH in *Freyc. Voy. Bot.*, p. 424, t. 36 (non Cunn.)

Stauropsis Warocqueana. Caulescens. Caulis robustus, erectus. Folia disticha, subdistantia, carnosa, oblongo-linearia, apice biloba. Pedunculus erectus validus, paniculatus, densiflorus. Sepala obovata, 1-2 cm. longa, 8 mm. lata. Petala similia. Labellum carnosum, angustum; lobi laterales brevissimi, late rotundati, lobus medius inflexus, angustus, obtusus, infra apicem profunde constrictus, infra medium calloso-carinatus, basi saccatus. Columna brevissima.

Stauropsis Warocqueana ROLFE, *supra*.

This distinct and handsome species is a native of New Guinea, whence it was introduced by Messrs LINDEN, L'HORTICULTURE INTERNATIONALE, Parc Leopold, Brussels, some time ago. It flowered in the collection of M. G. WAROCQUÉ, of Mariemont, in December last, and is named in honour of its possessor.

It is very distinct from every other species of the genus, though allied to *S. lissochiloides* BENTH., and *S. gigantea* BENTH. It may, however, be readily distinguished by its dense panicle of far smaller flowers, as well as by numerous differences in their structure. The stem is erect and stout, nearly three quarters of an inch in diameter, and bearing a few strong stout roots on its lower part. The leaves, which are borne about two inches apart, are oblong-linear and obtuse, six inches long by an inch broad. The peduncle is very stout, with a large broadly ovate bract-like sheath at the base of each of the four branches. The densely packed flowers are light buff-yellow in colour, with numerous light red-brown spots. The lip is white with a few rosy spots both on the front and side lobes. The branches of the panicle measure from five to seven inches in length.

This makes the fifth species of Stauropsis now in cultivation. The others are *S. fasciata*, *S. gigantea*, *S. lissochiloides*, and *S. undulata*, besides which there are

at least two others, including *S. philippinensis* Rchb. f., the original species of the genus, which are only known from dried specimens. Some of the species were formerly included under *Vanda*, then separated under the name of *Fieldia*, which in turn had to be superseded because the name was preoccupied by a genus of *Gesneraceae*. As it now stands, it is a rather polymorphic group, and its relations to allied genera somewhat difficult to define satisfactorily, yet Bentham's arrangement seems on the whole the most natural which has been proposed.

R. A. Rolfe.

(*Continued from page* 16.)

Above all, the atmosphere should be very sweet, very pure, and sufficiently moist. A good atmosphere assures a vigorous vegetation.

We know that the flowers of Phalaenopsis remain fresh longer than those of other kinds. We have frequently seen them keep in good condition from two to three months. With regard to their vegetation, the plants possess the same robusticity. They may be removed to a warm room when in flower, and resist the change better than the majority of other Orchids.

(*Le Journal des Orchidées*, I, p. 362.)

SOBRALIA VIOLACEA LINDL.

A. Goossens pinx.

PL. CCCXX.

SOBRALIA VIOLACEA LINDEN.

THE VIOLET SOBRALIA.

SOBRALIA. Sepala subaequalia, erecta, basi connata. Petala sepalis subsimilia v. latiora magisque colorata. Labellum a basi columnae erectum; lobi laterales columnam arcte amplectentes v. involventes, eique interdum basi adnati; lamina e sepalis breviter exserta, patens, concava, undulata v. fimbriata, indivisa v. biloba; facie laevis v. bilamellata v. lamellato-cristata. Columna elongata, subincurva, semiteres, angulis acutiusculis v. anguste alatis, apoda; stigma sub rostello brevi latum; clinandrium breviter v. longiuscule trilobum. Anthera lobo postico affixa, incumbens, discrete bilocularis; pollinia saepius in quoque loculo 4, pulvereo-granulosa, appendicula copiosa laxe granulosa connexa, a rostello libera. Capsula oblonga v. elongata, rigida v. carnosa, erostris.

Herbae terrestres, elatae, foliosae, non tuberosae. Folia dissita, coriacea, plicato-venosa, in vagina sessilia. Flores magni, in racemis terminalibus axillaribusque pauci, interdum ad florem unicum reducti. Bracteae appressae, saepe rigide paleaceae, interdum plures imbricatae.

Species ad 30, Andium Americae tropicae a Peruvia usque ad Mexicum necnon Guianam incolae.

Sobralia RUIZ et PAVON. *Prodr. Fl. Peruv. et Chil.*, p. 120, t. 26. — BENTH. et HOOK. F. *Gen. Plant.*, III, p. 590.

Sobralia violacea. Glabra, foliorum vagina rugoso-scabra lamina ovali acuminata superiore flore longiore, strobilo sessili plurifloro, labello maximo explanato laevi.

Sobralia violacea, LINDEN *ex Lindl. Orch. Linden.* (1846), p. 26. — LINDL. *Fol. Orch., Sobral.*, p. 8.

Sobralia violacea was originally described by Dr LINDLEY in his *Orchidaceae Lindenianae*, in 1846, from M. LINDEN's collections. It is said to be abundant in the high regions of the province of Merida, at the elevation of 6000 to 8000 feet, flowering in July. There are two numbers, 617, with pale violet flowers, and 615, flowers white with a yellow crest. LINDLEY remarks : — " The two numbers are supposed by Mr LINDEN himself to represent two varieties. The white kind has, however, narrower leaves than the other; but whether that difference is connected with others in the fructification, the impossibility of examining the dried flowers prevent my ascertaining. " In his *Folia Orchidacea* LINDLEY added the locality " Santa Martha, Purdie, " and remarked : — " This resembles *S. decora*, but is much stronger, has larger flowers, with imbricated somewhat leafy bracts, and a convolute lip, not unlike that of a Cattleya. " He also states that the white variety flowered with Mr RUCKER in July, 1847, from a specimen collected by WAGENER at Merida, at 5000 feet elevation. A note in his Herbarium states that Mr RUCKER's plant was received from M. LINDEN in 1844. The species was also collected by MORITZ, at Merida, who records the colours as " alba et violacea, " by WEIR, on hills near Bucaramanga, at 7000 feet elevation; and by JERVISE, at Antioquia. Also what appears to be the same species was collected in Peru, by MATTHEWS, and at Banos, in Bolivia, at 6000-7000 feet elevation, by Pearce. Purdie, who met with it in the mountains of Maracaybo, states : — " This

beautiful and fragrant plant has numerous varieties of colours on different plants, varying from pure white to crimson and even purple. " Thus we have evidence that the species is both variable and widely diffused.

We have seen that the white form was introduced and flowered in this country as long ago as 1847, and it may be added that what in all probability was the violet one flowered ad Kew in 1864. Neither of them, however, ever appear to have been common in gardens.

The annexed plate was prepared from a plant which flowered with Messrs Linden, L'Horticulture Internationale, Brussels, during last summer. So far as I can ascertain, it belongs to the same species, and is the first figure of the species which has appeared.

The Sobralias are the glory of tropical America, as various travellers have observed, though owing to their fugitive flowers, and the large size of many of the species, they have not been so popular as many other genera. In their native homes, where they grow in masses like reeds, producing flowers which rival the Cattleyas in brilliancy of colour, they must form a gorgeous spectacle, and even in our hothouses some of them are exceedingly ornamental and floriferous.

R. A. Rolfe.

LINDENIA

English edition

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PART XV. APRIL 1892.

LINDENIA

ICONOGRAPHY

OF ORCHIDS

CONDUCTED BY

J. LINDEN, LUCIEN LINDEN, EM. RODIGAS
and R. A. ROLFE.

THE COLOURED PORTRAITS BY

P. DE PANNEMAEKER, A. GOOSSENS and G. SEVEREYNS.

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THE " ORCHIDÉENNE " OF BRUSSELS.

THIRTY-FIFTH MEETING.

The thirty-fifth meeting of the ORCHIDÉENNE, held on March 13 th. at the HORTICULTURE INTERNATIONALE, was a highly successful one, in spite of the spell of winterly weather which prevailed. Many beautiful Orchids were exhibited, among which the following were specially admired :

The superb *Odontoglossum Hallii leucoglossum, O. Alexandrae,* with very large and richly spotted flowers, *O. hebraicum, O. spectabile,* of remarkable richness, *O. luteo-purpureum, O. tripudians; Cypripedium barbatum Crossii,* covered with flowers, and *C. Lindleyanum,* bearing two long inflorescences, *Cattleya amethystoglossa,* splendidly flowered and *Lycaste Skinneri alba grandiflora,* with giant flowers of incomparable beauty, from M. WAROCQUÉ;

The rare *Epidendrum Wallisii, E. Stamfordianum,* covered with flowers, *Cattleya Lüddemanniana,* of superb shape, *Odontoglossum Hallii, Ada aurantiaca,* bearing four long racemes, *Dendrobium primulinum,* with large and well coloured flowers, *Coelogyne Parishii* and *Schomburgkia undulata,* from M. A. VAN IMSCHOOT;

Phalaenopsis Schilleriana, bearing a long branched panicle with forty-two flowers, and the beautiful *Cypripedium Schröderae splendens,* from M. R. MARTIN-CAHUZAC;

Odontoglossum Cervantesii lilacinum, well flowered, *Zygopetalum crinitum,* with large flowers of brilliant colour, *Lycaste Skinneri, Dendrobium nobile, D. Wardianum, D. primulinum* and *Odontoglossum Cervantesii,* from Dr CAPART;

The beautiful *Hybrid Cypripedium,* distinct though derived from the same parents as *C. Measuresianum,* exhibited by Mme E. GIBEZ;

The superb *Odontoglossum Rossii var. Mommianum,* from M. DE LANSBERGE;

The beautiful novelties, *Cypripedium insigne var. Imschootianum, Masdevallia Harryana var. Kegeljani,* the splendid *Eulophia (?) Lindenii,* with pure white flowers disposed in a long raceme, one of the most beautiful of recent introductions; *Angraecum polystachyum, Cattleya amethystoglossa,* a beautiful variety, *Odontoglossum Coradinei, O. mirandum, O. stellatum, O. triumphans, O. cirrhosum, O. Pescatorei,* with flowers suffused with yellow, *O. gloriosum, O. Andersonii, O. odoratum striatum, O. hybridum, O. Hallii var. Pescatorei, O. Cervantesii lilacinum, Cypripedium villosum,* a strong clump, well flowered, *C. marmorophyllum, C. Druryi dilectum, C. hybridum, Paphinia grandis, Zygopetalum Lindeniae, Masdevallia violacea magnifica, Cymbidium eburneum, Trichocentrum triquetrum, Phalaenopsis grandiflora* and *P. Schilleriana, Dendrobium Brymerianum, Angraecum citratum, Miltonia Warscewiczii, Coelogyne cristata alba,* carrying four racemes, and *Dendrobium nobile,* from M. LINDEN;

Two plants of *Zygopetalum crinitum,* well flowered, and *Cypripedium Boxallii atratum,* of good form, from M. DE MOERLOOSE;

A *hybrid Odontoglossum,* of great beauty, of which the flowers were unfortunately past their best, from M. DE LUESEMANS;

The *Coelogyne cristata stellata,* covered with flowers, from M. STEPMAN.

The jury, composed of MM. MARTIN-CAHUZAC, President, ÉM. RODIGAS, Secre-

tary, G. Warocqué, Comte A. de Bousies, Dr Capart, F. Kegeljan, G. Miteau, du Trieu de Terdonck and A. Van Imschoot, made the following awards : —

First-class Diplomas of Honour

To *Masdevallia Harryana var. Kegeljani*, from M. Linden, *unanimously and by acclamation;*
Eulophia (?) Lindeni, from M. Linden, *unanimously and by acclamation;*
Cypripedium Imschootianum, from M. Linden, *unanimously and by acclamation.*

Botanical Certificate

To *Angraecum polystachyum*, from M. Linden.

First-class Certificates of Merit

To *Odontoglossum Hallii leucoglossum*, from M. G. Warocqué, *unanimously;*
Lycaste Skinneri alba grandiflora, from M. G. Warocqué;
Epidendrum Wallisii, from M. A. Van Imschoot;
Schomburgkia undulata, from M. A. Van Imschoot;
Cypripedium Schröderae splendens, from M. Martin-Cahuzac;
Odontoglossum Alexandrae, from M. G. Warocqué;
Odontoglossum spectabile, from M. G. Warocqué;
Cattleya Lueddemanniana, from M. A. Van Imschoot;
Odontoglossum Rossii Mommianum, from M. de Lansberge;
Cattleya amethystoglossa, from M. Linden;
Zygopetalum Lindeniae, from M. Linden.

Second-class Certificates of Merit

To *Odontoglossum Cervantesii lilacinum*, from Dr Capart;
Coelogyne Parishii, from M. A. Van Imschoot;
Coelogyne cristata alba, from M. Linden;
Paphinia grandis, from M. Linden;
Cypripedium hybride, from Mme Gibez;
Masdevallia sp., from M. Linden;
Zygopetalum crinitum, from Dr Capart.

First-class Cultural Certificates

To *Cattleya amethystoglossa*, from M. G. Warocqué, *unanimously;*
Phalaenopsis Schilleriana, from M. Martin-Cahuzac;
Cypripedium barbatum Crossii, from M. G. Warocqué;
Epidendrum Stamfordianum, from M. A. Van Imschoot.

Second-Class Cultural Certificates

To *Cypripedium Lindleyanum*, from M. G. Warocqué.

☞ The 36th Meeting will be held on April 10th next. The exhibition will remain open on Sunday and Monday, April 10th and 11th.

SELENIPEDIUM CAUD T M RC UROPT D|UM OL

P. De Pannemack

PL. CCCXXI.

SELENIPEDIUM CAUDATUM RCHB. F. var. UROPEDIUM ROLFE.

THE TAILED SELENIPEDIUM, TAILED-LIPPED VARIETY.

SUBVAR. DELICATUM.

SELENIPEDIUM. Vide *Lindenia*, Engl. ed., II, p. 35.

Selenipedium caudatum. Folia disticha, loriformia, subobtusa, pedalia v. longiora. Scapus 1-4-florus. Bracteae complicatae, ancipites, oblongae. Ovarium gracile, cinnamomeo-velutinum. Sepala ovato-lanceolata, longe attenuata, subobtusa, margine undulata, viridi-flava, nervis viridulis. Petala a basi oblongo-lanceolata in caudas lineares longissimas protensa, aquose roseo-purpurea v. pallida, breviter et spisse puberula, basi viridi-flava nervis viridulis. Labelli calceus oblongus, antice inflatus, ostium oblongum antice acutiuscule gibbum, lobi laterales dense velutini, basi interne valde velutina; color flavidus, maculis nunc grossis nunc parvis atropurpureis. Staminodium hastato-trilobum, lobi trianguli.

Selenipedium caudatum RCHB. F. in *Bonplandia*, II (1854), p. 116. — ID. *Xen. Orch.*, I, p. 3. — ID. *Beitr. zur Orch.*, p. 3, tt. 1, 2. — *Pescatorea*, t. 24. — *Gard. Chron.*, 1886, pt. 2, p. 269, fig. 54 (abnormalis).

Cypripedium caudatum LINDL. *Gen. & Sp. Orch.* (1840), p. 531. — ID. in *Paxt. Fl. Gard.*, I, p. 37 (in part.), t. 9, et p. 40 (flores soli). *Fl. d. Serres*, t. 566. — *Revue Hort.*, 1885, p. 472, fig. 84. — DE PUYDT *Orch.*, p. 189, fig. 191, p. 259, t. 10. — *Gartenflora*, XIX, p. 257, t. 661. — HOOK. *Ic. Pl.*, VII, t. 658-9. — WARN. *Sel. Orch.*, ser. 2, t. 1.

Var. Wallisii. Floribus parvioribus, pallidioribus.

Selenipedium Wallisii RCHB. F. *Xen. Orch.*, II, p. 189, t. 191.

Cypripedium caudatum var. Wallisii, VEITCH *Man. Orch.*, pt. IV, p. 61.

Var. Uropedium. Labello plano longissime caudato.

Uropedium Lindenii LINDL. *Orch. Linden.* (1846), p. 28. — BRONGN. in *Ann. Sc. Nat.*, ser. 3, XIII, p. 113, t. 2, fig. 1-8. — PAXT. *Fl. Gard.*, I, p. 72. — BLUME *Coll. Orch.*, p. 165, fig. 2-5. — RCHB. F. *Xen. Orch.*, I, p. 32, t. 15. — ID. *Beitr. zur Orch.*, p. 3, t. 3. — *Belg. Hort.*, 1854, p. 193, cum ic., fig. 1-2, and p. 195, fig. 32. — *Pescatorea*, t. 2.

Cypripedium Lindenii, VAN HOUTTE *Fl. d. Serres*, XVIII, p. 155.

Cypripedium caudatum var. Lindenii, VEITCH *Man. Orch.*, pt. IV, p. 60.

The plant here figured, though a very interesting one, is extremely difficult to deal with satisfactorily, so far as its nomenclature is concerned; for it is at once a variety and a monster.

The species to which it belongs was originally described by Dr. LINDLEY, in his *Genera and Species of Orchidaceous Plants*, in 1840, as *Cypripedium caudatum*, his materials being a simple flower from the Herbarium of RUIZ and PAVON, sent by MATTHEWS to Sir WILLIAM HOOKER. Thus we have direct evidence that the plant was discovered by the Spanish botanists RUIZ and PAVON during their exploration of Peru and Chili in 1778 to 1789, and probably in the Huanuco district in Peru, which they visited. Six years later the same author described the so-called genus Uropedium in his *Orchidaceae Lindenianae*, from a plant collected by M. J. LINDEN in June 1843. He described it as having all the characters of Cypripedium except that the lip was flat, the petals prolonged into

long tails, and the staminode trilobed-hastate. A field note states — " This singular and magnificent plant grows on the ground in the little woods of the Savannah, in that elevated part of the Savannah which overlooks the vast forests at the bottom of the lake of Maracaybo, and situated on the territory of the Indians of Chiguara, at the height of 8500 feet. "

Lindley observes that the habit of the plant is exactly that of *Cypripedium insigne*, and that the lip is of exactly the same form as the petals. There is no mention of any resemblance to the *Cypripedium caudatum*, but it must be remembered that Lindley then only knew this by a single dried flower.

In March 1850 *Cypripedium caudatum* flowered for the first time in this country, in the collection of Mrs Lawrence, F. H. S., at Ealing Park, and was awarded a large Silver Medal by the Horticultural Society, before whom it was exhibited on the 18th of that month. A coloured plate was given in Paxton's *Flower Garden*, immediately afterwards, but unfortunately the vegetative organs and bracts of *C. Hartwegii* were incorporated into the description, and the same unfortunate blunder is repeated in the woodcut given on page 40 of the work. The plant here mentioned collected by Hartweg must therefore be excluded. As to its introduction in a living state we are told that " subsequently the collectors of Mssrs Veitch, of Exeter (now of Chelsea), and of M. Linden, fell in with it, and to the latter is, we believe, owing its introduction in a living state. "

The *Uropedium Lindenii* was also introduced by M. Linden, and appears to have first flowered in the collection of M. Pescatore, of St-Cloud, near Paris, in May 1849, and a most interesting paper on the same appeared in February 1850, from the pen of M. Brongniart (cited above), in which the view was advanced that the plant was probably a monstrous state of *Cypripedium caudatum*, a supposition rejected by Prof. Reichenbach, but now amply verified notwithstanding.

The variety *Wallisii* was discovered in Ecuador by Gustav Wallis in 1872-1873, and a little later by Davis in the valley of Chinchao, in the Huanuco district of Peru. It is characterised by its somewhat smaller and paler flowers, and the pure white infolded side lobes of the lip.

The plant here figured is an abnormal state of the last-named, and bears the same relation to it that *Uropedium Lindenii* bears to the typical form. It appeared with Mssrs Linden, L'Horticulture Internationale, Parc Leopold, Brussels, during June last, and it is interesting to note that a plant of the variety *Wallisii*, in the collection of Sir Trevor Lawrence, produced a flower with a curiously flattened lip, about the same time. Its occurence is certainly interesting.

It may perhaps be advisable to refer to the generic position of the plant in more detail, as so many people find a difficulty in accepting the theory of its being an abnormal state of something else. Much has been made of the fact that the plant grows in abundance in a locality where *Selenipedium caudatum*, that is

(To be continued on p. 24.)



ODONTOGLOSSUM PRAESTANS RCHB. F. et WARSCEW.

P. De Pannemaeker chrom.

PL. CCCXXII.

ODONTOGLOSSUM PRAESTANS RCHB. F. et WARSCEW.

THE DISTINGUISHED ODONTOGLOSSUM.

ODONTOGLOSSUM. Vide *Lindenia*, Engl. ed., vol. I, p. 19.

Odontoglossum praestans. Pseudobulbi ovoidei, subcompressi. Folia lineari-lanceolata, acuta. Racemi elongati, multiflori. Bracteae lanceolatae, acutae, usque ovaria dimidia aequantes. Sepala et petala lineari-lanceolata, acuminata. Labellum ovato-lanceolatum, acuminatissimum, calli quaterni carinaeformes dentati supra basim. Columna clavata, alis porrectis fimbriatis.

Odontoglossum praestans RCHB. F. & WARSCEW. in *Bonplandia*, II (1854), p. 99. — RCHB. F. in *Gard. Chron.*, 1875, pt. II, p. 323.

Odontoglossum praestans belongs to that section of the genus which contains *O. odoratum*, *O. gloriosum*, *O. naevium*, and several other allied species, of which it may be considered the southern representative. It was originally discovered near the sources of the Maranon River, in Northern Peru, by WARSCEWICZ, who sent home copious dried specimens. According to REICHENBACH it was also collected in Peru by SMITH, and sent to Mr Low.

Its original introduction to cultivation I have been unable to trace, but in 1875 REICHENBACH wrote that it flowered very long since at Tooting with Messrs ROLLISSON, who sent it to Consul SCHILLER, and that it had recently appeared in the collection of the Rev. J. B. NORMAN, at Whitchurch Rectory, Edgware, London. It probably soon disappeared again, for it is not included in the Orchid Manuals. Fortunately it is once more represented in European collections, and as the culture of Odontoglossums is now better understood we may hope that this time it has come to stay. It came with an importation received some time ago by Messrs LINDEN, of Brussels, from Peru, and on the occasion of its flowering in January last the annexed portrait was prepared.

REICHENBACH observes that " WAGENER gathered it but once at Ocaña, " but I cannot help suspecting that a mistake of some kind has been made. Its Peruvian habitat is undoubted, and Odontoglossums are not distributed over such wide tracts of country as to warrant our belief in its presence in a locality some thousand miles to the northward, and especially in a district so thoroughly known as Ocaña, without much stronger evidence than this. Indeed when we remember that hitherto it has been very imperfectly known, and that the allied species have more than once been confused with each other, I think we may safely regard the Ocaña plant as something different.

The flowers, which measure over three inches in diameter, exhale a powerful perfume. The sepals and petals are a light buff-yellow, inclining towards

greenish, with very numerous small light brown spots. The disc and crests of the lip are yellowish-white, and the acuminate apex brown; the column is also yellowish white. According to REICHENBACH's description it appears to be somewhat variable in colour.

It is very distinct from its allies in the character of the pseudobulbs, in fact these have such a different appearance that it was not at first recognised as an Odontoglossum at all, but when the flower-spikes appeared its affinity was apparent. These organs though ovoid in shape are very little compressed laterally, and their colour green, marbled with dusky brown. Some of these pecularitus may be somewhat modified when the plant becomes established in cultivation. Its re-appearance is extremely interesting.

R. A. ROLFE.

(Continued from page 22.)

in its normal condition, has not been found. This fact, however difficult to understand, cannot explain away one of another kind, namely that on more than one occasion flowers having the essential characters of Uropedium have been borne on plants of the normal form. And equally conclusive is the evidence derived from a totaly different source, namely that the hybrids derived from crossing both *Uropedium Lindeni* and *Selenipedium caudatum* with *S. longifolium* and its varities are practically identical.

There are three nearly parallel casis in other groups, to which attention may be called. The so-called genus Paxtonia, established by LINDLEY, is now known to be a peloriate state of *Spathoglottis plicata; Argyrorchis javanica* bears the same relation to *Macodes javanica*, and *Dendrobium normale* to *D. fimbriatum. Dendrobium normale*, though it has escaped the somewhat questionable honour of being elevated to the rank of a separate genus, presents a somewhat analagous case to that of the Uropedium, for, so far as I can judge by the somewhat meagre published information, it is common in two or three localities in the Western Himalayas, where no *D. fimbriatum* grows, and, so far as I can ascertain, the relation of the two forms has not before been made out. In each case the adoption of the peloriate condition seems to have been beneficial, as that form has prevailed to the exclusion of the normal one, and become fixed or permanent. Do they come true from seed? We are here confronted with a very interesting problem which presents itself for solution.

R. A. ROLFE.



PL. CCCXXIII.

ZYGOPETALUM CERINUM RCHB. F.

THE WAXY ZYGOPETALUM.

ZYGOPETALUM. Vide *Lindenia*, Engl. ed., vol. I, p. 27.

Zygopetalum cerinum. Epseudobulbosum. Folia caespitosa, pedalia, oblanceolato-oblonga, acuminata, basi cuneata. Scapi validi, breves, uniflori. Sepala obovato-oblonga, obtusa, concava, basi cuneata. Petala paullo minora. Labellum late obovato-rotundatum, obscure trilobum basi cordato-angulatum; lobo medio obtusissimo convexo subreflexo; lobis lateralibus parvis; crista crassa semicirculari plicata, margine crenulata. Columna clavata.

Zygopetalum cerinum RCHB. F. in *Walp. Ann.*, VI, p. 651. — *Fl. des Serres*, t. 1815. — *Gartenflora*, XXIV, p. 228, t. 838.

Huntleya cerina LINDL. in *Paxt. Fl. Gard.*, III (1852-3), p. 62, fig. 263. — *Bot. Mag.*, *t.* 5598. — BATEM. *Sec. Cent. Orch.*, t. 183.

Pescatorea cerina RCHB. F. in MOHL & SCHLECHT. *Bot. Zeit.* (1852), p. 667. — RCHB. F. *Xen. Orch.*, I, p. 184, t. 65. — *Fl. Mag.*, n. s. (1873), t. 93. — WARN. & WILL. *Orch. Alb.* IX, t. 394.

This interesting plant was originally described by Dr LINDLEY, in 1852, as *Huntleya cerina*, in the third volume of PAXTON's *Flower Garden*, where we are told that " it was found in Veragua, by Mr WARSCEWICZ, on the Chiriqui volcano, at 8000 feet above the level of the sea, and was sold by auction by Mr STEVENS some time in 1851. " M. RUCKER was the first to flower it, and for a long time is said to have been the only possessor of the plant. Immediately afterwards REICHENBACH, who observed some differences between it and the original *Huntleya meleagris*, founded upon it the genus Pescatorea, which he dedicated to M. PESCATORE, of St. Cloud, near Paris, whose celebrated collection was formerly the finest in Europe. The genus, however, with others, was afterwards reduced to a section of Zygopetalum.

In its native home it is said to grow on trees of the genera Trichilia and Cupania, at an elevation of between 8,000 and 10,000 feet. Although grown with success by different cultivators, and in different ways, it is said not be a long-lived plant under cultivation, probably because its requirements are not yet sufficiently understood. It is recommended not to let the plants become too large, otherwise the roots decay, and unless the old soil is carefully removed and the dead roots cut away, fatal consequences may result. They should be cultivated in baskets, with plenty of drainage, in a small quantity of very fibrous peat and sphagnum moss, mixed with some pieces of charcoal, and should be well elevated above the top of the basket, and placed at the warm end of the Cattleya house. They should never he allowed to become at all dry, as being entirely destitute of pseudobulbs they have no reserve stores of food to draw upon. Although requiring an abundant supply of water throughout the year, it should

pass away through the compost and drainage very freely, as stagnant water is in the highest degree injurious.

It flowers during the dull months of October and November, and remains a long time in perfection. The flowers, which are borne in the axils of the leaves, measure about three inches in diameter. The sepals and petals are fleshy, concave, roundish-oblong, and of a pale waxy primrose-yellow. The lip is bright yellow, with the radiating lines of the great fleshy disc margined with brown.

It is curious how comparatively unknown are many of the Pescatoreas, and how little has come to light about them during recent years. In 1878 Reichenbach wrote. " There is no end of new Pescatoreas and Bolleas, though it is perhaps not so astonishing as it may appear. The majority of these plants are collected by the native collectors out of flower, one as like the other as one egg to another; hence all are believed to be the same as those collected in the flowering state. There are even now in my possession sketches made on the western side of tropical south America which promise new species and very elegant ones. " Andinthe following year he added : — " There is scarcely a group of Orchids that has offered such a quantity of surprises as Pescatoreas and Bolleas. The traveller is lucky to detect one, provided he condescends to invade the woods, or to obtain one by the *peons*, should he prefer to smoke at home and send the brown fellows into the woods. Their orders are to collect, and all similar kinds are brought, and believed to be the same. " Very few species have since been described, and many of the earlier ones are chiefly known by the descriptions, for in many cases the unique specimens are locked up in the Reichenbachian Herbarium at Vienna. It is much to be hoped that further attention will be paid to this interesting group, as apart from their interest to the botanist there are many of them whose beauty would secure them a place in many collections, provided only their cultivation were better understood.

R. A. Rolfe.



PL. CCCXXIV.

HOULLETIA ODORATISSIMA LINDEN.

THE SWEETEST HOULLETIA.

HOULLETIA. Sepala subaequalia, libera, patentia. Petala sepalis similia v. basi angustiora. Labellum cum basi columnae continuum, patens, angustum, carnosum, lobi laterales unguem crassum seu hypochilium marginantes, postice in processus corniformes retrorsum arcuatos producti, medius articulatus, indivisus latiusculus, basi saepe truncatus v. biauriculatus. Columna incurvo-erecta, crassiuscula, semiteres, exalata, apoda v. basi in pedem brevissimum producta, unilocularis; pollinia 2, cerea, anguste oblonga, inappendiculata, anthera dehiscente stipiti angusto v. lineari affixa, glandula indistincta.

Herbae epiphyticae, caulibus brevissimis vaginatis unifoliatis mox in pseudobulbum carnosum incrassatis. Folium amplum, plicato-venosum, in petiolum longiusculum contractum. Scapi inter pseudobulbos erecti v. recurvi, simplices, paucivaginati. Flores majusculi, laxe racemosi, longiuscule pedicellati. Bracteae pedicello multo breviores.

Species 8, Americae tropicae a Peruvia et Brassilia usque ad Costa Ricam incolae.

Houlletia BRONGN. in *Ann. Sc. Nat.*, ser. 2, XV, p. 37. — BENTH. & HOOK. F. *Gen. Plant.* III, p. 550.

Houlletia odoratissima. Pseudobulbi ovato-oblongi, unifoliati. Folium petiolatum, lanceolatum, acutum, plicato-venosum. Scapus strictus; racemus multiflorus. Bracteae anguste lanceolatae, acuminatae. Sepala oblongo-lanceolata, acuta, patentia. Petala subconformia, paullo minora. Labellum trilobum, epichilio unguiculato ovato obtuso subsagittato undique intra marginem verrucoso angulis posticis obtusis, mesochilio dente longo linguiformi apice acuto cirrhis ascendentibus falcatis columna brevioribus, hypochilio appendice pedicellata cyathiformi aucto. Columna elongata, clavata.

Houlletia odoratissima LINDEN ex LINDL. in *Paxt. Fl. Gard.*, III (1852-3), p. 172. — *Pescatorea*, t. 3. — RCHB. F. in *Walp. Ann.*, VI, p. 616. — *Gard. Chron.* (1885), pt. II, p. 777, fig. 173. — *Gartenflora*, XXXVI, p. 222. — *Orchidophile* (1887), p. 273, cum ic.

Var. antioquiensis ANDRÉ in *Ill. Hort.*, XVII (1870), p. 59, t. 12. — WARN. & WILL. *Orchid Album*, VII, t. 316. — *Revue de l'Hort. Belge*, 1890, p. 121, cum ic.

Var. xanthina RCHB. F. in *Gard. Chron.* (1884), pt. 2, p. 38.

Houlletia odoratissima was originally introduced by M. LINDEN, from New Grenada, where it was found by SCHLIM, on the borders of rivulets in the province of Soto, in New Grenada, in 1849, and again in 1851, in the forests of *Weinmannia*, near Teorama, in the province of Ocana. It was first described in the third volume of PAXTON's *Flower Garden*, in 1853, by Dr LINDLEY, where we read that " its extremely aromatic odour discovered its presence at a considerable distance, on which account M. LINDEN calls it *H. odoratissima*. "

It flowered for the first time in Europe in the collection of M. PESCATORE, at St. Cloud, near Paris, in January 1852.

The variety *antioquiensis*, which chiefly differs in its larger, darker-coloured flowers, with broader petals, was discovered in 1868, in the province of Antioquia, in the same country, by M. GUSTAV WALLIS, when collecting for M. LINDEN. It was described and figured in the *Illustration Horticole* for 1870.

The variety *xanthina*, which flowered with Baron HRUBY, Peckau, Kolin, Bohemia, in 1884, differs in having orange-yellow flowers.

Evidence is now to hand of the presence of the species in Eastern Peru, for specimens oppeared among the importations recently received from that country by Messrs LINDEN, L'HORTICULTURE INTERNATIONALE, Brussels, one of which is represented in the annexed plate. It is very interesting to be thus able to extend the known range of the species, and in time we may hope to become better acquainted with the distribution of Orchids on that stupendous mountain range, the Andes, one of the most interesting regions of the globe. Numerous indications are continually coming to light which suggest that many Andine Orchids of what may be called middle altitudes are more widely diffused than was formerly supposed, and that these generally have a wider range than those from more alpine situations.

It is a free growing species, and is said to thrive well in baskets, suspended from the roof of the Odontoglossum house or the coolest end of the Cattleya house, and shaded from the hottest sun in summer. Good fibrous peat, with sphagnum moss and a few broken potsherds or nodules of charcoal, is recommended as the proper compost, and plenty of water must be given during the growing season. After the growth is mature the plant should be subjected to a season of rest, but the pseudobulbs should never be allowed to shrivel, or the plants rapidly deteriorate, and dwindle away.

R. A. ROLFE.

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THE " ORCHIDÉENNE " OF BRUSSELS.

THIRTY-SIXTH MEETING.

The thirty-sixth meeting, held on April 10th. at the HORTICULTURE INTERNATIONALE, Bruxelles, was a very brillant success. A large number of Orchids of exceptional interest and beauty were exhibited, notably *Odontoglossum Pescatorei Miteauanum,* a *hybrid Cypripedium* from M. MOENS, *Odontoglossum triumphans excellens, Zygopetalum Imschootianum, Odontoglossum Dallemagneanum, Cattleya Parthenia vernalis* and the famous *Cymbidium eburneum.*

We may cite among the most admired the following : —

The magnificent Odontoglossums, *O. Hallii leucoglossum, O. Coradinei,* of very good shape and bearing large dark blotches, *O. Pescatorei,* the dimensions as large as a good form of *O. Alexandrae,* and spotted with bright carmine, particularly on the back of the petals, *O. maculatum,* three beautiful examples of *O. triumphans,* with enormous bulbs, of which one was blotched with very dark purple brown, and another ornamented on the petals with numerous red-brown spots, giving a charming effect; *O. Cervantesi decorum, O. luteo-purpureum,* the splendid *O. Alexandrae Mariemontense,* of gigantic size, having the flowers suffused with yellow and covered with large clear brown blotches; *Cymbidium eburneum,* a very beautiful specimen covered with flowers of large size, the colour white releived by a light dotting of rose; *Oncidium Marshallianum,* carrying a very long panicle of brilliantly coloured flowers; *Cypripedium barbatum Crossii,* a strong clump well flowered, and *C. selligerum superbum,* from M. G. WAROCQUÉ;

The rare and charming *Cattleya* × *Parthenia vernalis,* from M. A. BLEU, a secondary hybrid of the interesting series obtained by the skilful Parisian hybridist, with white flowers, tinted with golden yellow in the throat of the lip, ank some fine rose striations on the front lobe;

The dried flowers of *Lissochilus giganteus,* with a water-colour painting of the complete inflorescence, sent by M. OTTO BALLIF, and showing well the splendour of this rare Orchid, with its gigantic flowers tinted with delicate bright rose;

The *Dendrochilum glumaceum validum,* a strong specimen covered with inflorescences, the superb *Odontoglossum sp.,* spotted with clear brown in exquisite fashion, the beautiful *O. crispum* and the *hybrid Cypripedium* (*C. Chantini* × *C. callosum*), having the bright colours of the first parent with the ample form of the second, exhibited by M. J. MOENS;

The superb *Cypripedium selligerum majus,* of remarkable dimensions, *C. Boxalli, Zygopetalum Imschootianum,* carrying a long raceme of curiously coloured flowers, very remarkably dark; *Cattleya Trianae* and *C. species,* beautiful varieties, *Dendrobium nobile* and *Odontoglossum Halli,* from M. A. VAN IMSCHOOT;

The splendid *Odontoglossum crispum,* with enormous flowers, the beautiful *Miltonia Roezli* and *Odontoglossum Andersonii,* and *Dendrobium superbum,* covered with flowers of gigantic form, from M. comte DE BOUSIES;

The beautiful *Odontoglossum Pescatorei Miteauanum,* magnificently spotted with dark carmine at the tips of the sepals and petals, also at the base of the lip, from M. G. MITEAU;

The beautiful *Odontoglossum triumphans, O. crispum, O. sp., O. Pescatorei,* well blotched, *O. Rossi, O. hybridum, O. Dallemagneanum,* with large flowers superbly spotted with bright red on a clear yellow ground; *O. sceptrum, O. luteo-purpureum var. Boxmanni,* with flowers entirely tinted with mahogany brown, without yellow spots on the sepals and petals; *O. Halli leucoglossum,* well flowered, *O. Cervantesi lilacinum, O. cordatum superbum, Masdevallia Houtteana, Selenipedium grande, Cypripedium ciliolare, C. Haynaldianum, C. marmorophyllum, C. Laforcadei, Aganisia ionoptera alba, Dendrobium Jamesianum, D. nobile nobilius, Angraecum Leonis, Epidendrum arachnoglossum, Aerides sp., Masdevallia Houtteana,* covered with flowers, *Cattleya Mendeli, C. intermedia, Oncidium sp.* and *Masdevallia Harryana var.,* from M. LINDEN;

Cypripedium Rothschildianum, superb variety, from M. MARTIN-CAHUZAC;

Trichopilia suavis, a strong clump covered with flowers of excellent form, from M. GARDEN;

Sophronitis grandiflora, with flowers of very large size and brillant colour, from Dr CAPART;

The superbe *Masdevallia Harryana var.*, with very large and beautifully coloured flowers, from M. DE LANSBERGE.

The Jury, composed of MM. comte DE BOUSIES, president, ÉM. RODIGAS, secretary, F. KEGELJAN, MASSANGE DE LOUVREX, DE MEULENAERE, G. MITEAU, Dr VAN CAUWELAERT, A. VAN IMSCHOOT, made the following awards : —

First-class Diplomas of Honour

To *Odontoglossum Pescatorei Miteauanum*, from M. MITEAU, *unanimously and by acclamation;*

A hybrid Cypripedium, from M. J. MOENS, *unanimously;*

Odontoglossum triumphans excellens, from M. LINDEN, *unanimously;*

Odontoglossum Pescatorei maculatum, from M. LINDEN, *unanimously;*

Odontoglossum hybridum Dallemagneanum, from M. LINDEN, *unanimously* ;

Zygopetalum Imschootianum, from M. A. VAN IMSCHOOT;

Cattleya × *Parthenia vernalis*, from M. A. BLEU.

Second-class Diplomas of Honour

To *Odontoglossum hybridum var.*, from M. LINDEN.

Botanical Certificate

To *Aganisia ionoptera var. alba*, from M. LINDEN.

First-class Certificates of Merit

To *Cattleya sp.*, from M. A. VAN IMSCHOOT, *unanimously;*

Odontoglossum Cervantesi decorum, from M. WAROCQUÉ, *unanimously;*

Odontoglossum Rückeri, from Dr VAN CAUWELAERT;

Odontoglossum triumphans, from M. G. WAROCQUÉ;

Odontoglossum hybridum var., from M. J. MOENS;

Odontoglossum crispum Mariemontense, from M. G. WAROCQUÉ;

Odontoglossum Halli, from M. A. VAN IMSCHOOT;

Cypripedium Rothschildianum, from M. MARTIN-CAHUZAC;

Cypripedium selligerum majus, from M. A. VAN IMSCHOOT;

Cypripedium Harrisianum superbum, from Dr VAN CAUWELAERT;

Sophronitis grandiflora, from Dr CAPART.

Second-class Certificates of Merit

To *Odontoglossum crispum*, from M. comte DE BOUSIES;

Cypripedium Boxalli atratum, from M. A. VAN IMSCHOOT;

Masdevallia Harryana var., from M. DE LANSBERGE.

First-class Cultural Certificates

To *Cymbidium eburneum*, from M. G. WAROCQUÉ, *unanimously and by acclamation* (not only for the excellent culture but for the Merit of the variety);

Dendrochilum glumaceum validum, from M. MOENS, *unanimously;*

Odontoglossum Rossi, from M. LINDEN, *unanimously;*

Cypripedium barbatum Crossi, from M. G. WAROCQUÉ;

Selenipedium grande, from M. LINDEN;

Odontoglossum Andersoni, from M. comte DE BOUSIES;

Dendrobium macrophyllum giganteum, from M. comte DE BOUSIES;

Trichopilia suavis, from M. GARDEN.

PART XVI. MAY 1892.

LINDENIA

ICONOGRAPHY

OF ORCHIDS

CONDUCTED BY

J. LINDEN, LUCIEN LINDEN and EM. RODIGAS.

THE COLOURED PORTRAITS BY

P. DE PANNEMAEKER, A. GOOSSENS and G. SEVEREYNS.

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EULOPHIELLA ELISABETHAE L. LIND. et ROLFE

A. Goossens pinx. *J. Goffart chrom.*

PL. CCCXXV.

EULOPHIELLA ELISABETHAE L. LIND. et ROLFE.

QUEEN ELISABETH OF ROUMANIA'S EULOPHIELLA.

EULOPHIELLA. Sepala patentia aequalia, subcarnosa, lateralia pedi columnae adnata. Petala submembranacea, paullo minora, caeteris similia. Labellum pedi columnae articulatum, mobile, ecalcaratum, suborbiculare, trilobum; lobi laterales erecti, medius patens; discus crista carnosa integra reniformi prope basin instructus, dein ad medium bilamellatus. Columna erecta, brevis, subclavata, dilatata, aptera, basi in pedem brevem producta; clinandrium truncatum, parum prominens. Anthera terminalis, opercularis, cristata, incumbens, unilocularis; pollinia 4, cerea, obovata, per paria sibimet arcte applicita, inappendiculata, anthera dehiscente stipiti brevi plano affixa, glandula parva, oblonga.

Herba terrestris? caulibus brevibus paucifoliatis mox in pseudobulbos carnosos incrassatis. Folia angusta, elongata, plicato-venosa. Scapus ad latera pseudobulbi sub-erectus, arcuatus, simplex, multiflorus. Flores racemosi, longiuscule pedicellati. Bracteae pedicellis multo breviores.

Eulophiella ROLFE, *supra*, novum genus.

Eulophiella Elisabethae. Pseudobulbi fusiformi-oblongi v. paullo elongati. Folia anguste lanceolata, acuminata, basi attenuata, petiolata, 0,4-0,6 m. longa. Scapus arcuatus 0,28 m. longus, multiflorus. Bracteae elliptico- v. obovato-oblongae, obtusae, concavae, 1-1,8 cm. longae. Pedicelli 2,5-3 cm. longi. Sepala patentia, elliptico-rotundata, obtusissima, 2 cm. longa, 1,6 cm. lata. Petala elliptico-obovata, obtusissima, sepalis paullo angustiora. Labellum 1,3 cm. longum, trilobum; lobus medius late obovatus, obtusissimus, basi parce hispido-setiferus; lobi laterales rotundati, obtusi; crista 2 mm. lata, lamellae apice dentiformes. Columna 7 mm. longa.

Eulophiella Elisabethae L. LIND. et ROLFE, *supra*.

Among the novelties which are continually appearing in the interesting family to which the present work is devoted, may be found occasionally one whose relation to previously described species is somewhat remote, so that it becomes difficult or impossible to fit it into any existing genus. This was the case with *Moorea irrorata* and *Neobenthamia gracilis*, two very distinct types which I felt bound to consider as representing new, and perhaps monotypic genera. And now a third case appears in which a similar course seems necessary. It is that of a plant introduced by Messrs LINDEN, L'HORTICULTURE INTERNATIONALE, Brussels, which has recently flowered in their establishment, and whose portrait is given in the annexed plate.

It has the general habit of a Catasetum, or a species of Eulophia with an aërial pseudobulb, as *Eulophia scripta*, this organ bearing a number of rings or annular scars, which mark the bases of the leaves and sheathing bracts, remaining persistent on the pseudobulbs as a ring of fibrous threads. The leaves on the only young pseudobulb seen are four in number, narrowly lanceolate and attenuate below into the petiole, nearly two feet long, and with plicate veins. The scape, which rises from the base of the young pseudobulb, is nearly a foot long, somewhat arching, unbranched, and, together with the rather fleshy concave obtuse bracts and the pedicels, of a deep lurid vinous-purple, which contrasts strongly with the

white flowers. Except in colour, the scape and bracts bear a strong resemblance to the same organs in *Spathoglottis aurea*. The flowers are fleshy, the sepals especially so, with broad spreading segments which form a nearly complete circle. The back of the sepals is strongly stained with rosy-red across the middle and near the base, the rest being paler and the tips nearly white. The front of the sepals is white, with a shade of blush near the base. The petals are nearly pure white. The broad three-lobed lip is quite delicately articulated to the short foot of the column by a slender strap, and moves up and down with the slightest touch. Its ground colour is white with the disc of the front lobe bright yellow, on which part are several short bristle-like processes, directed forward. The crest is somewhat peculiar in structure. Near the base of the lip is a rather large erect fleshy callus, deep orange in colour, semicircular in shape and slightly crenulate in front, and from this extend a pair of slightly diverging white erect keels, each terminating in a free tooth tipped with orange. The extreme base of the lip is orange-yellow, but there is not the slightest trace of either spur or sac. The column is pure white, except the broad foot which is a little over a line long, and has a deep orange W-shaped marking on its face. The anther-case has a deep brownish-crimson crest, much like that of Galeandra; the stipes of the pollinia is flat, rather shorter than the pollinia themselves, and the small gland oblong. The lateral sepals are adnate to the short foot of the column.

The sum total of these characters seems to place the plant in the subtribe Cyrtopodieae, where it may perhaps be placed next to Govenia. The habit and crested anther suggest Eulophieae, yet the foot of the column and the absence of either spur or sac to the lip are sufficient to exclude it. The crest of the lip and one or two other characters suggest an affinity with *Zygopetalum* and Aganisia, yet these are epiphytic, while the present plant appears to be terrestrial. The plant is certainly somewhat anomalous in structure, but I think for the present it may be placed next to Govenia, which is terrestrial and has an articulated lip, though in many other respects the two are very different.

The generic name serves both to indicate the resemblance to Eulophia, and also the presence of the crest. The species is by request dedicated to Queen Elisabeth of Roumania, well known in literary circles under her adopted title of " Carmen Sylva. "

The habitat of this distinct and remarkable plant is for obvious reasons not at present divulged, though it will doubtless be forthcoming at some subsequent period. It may however be indicated that it should be placed in the warm house and will doubtless succeed under the treatment accorded to Phaius, Eulophia and Cyrtopodium.

R. A. Rolfe.



PHAIUS TUBERCULOSUS BLUME

A. Goossens pinx. *J. Goffart chrom.*

PL. CCCXXVI.

PHAIUS TUBERCULOSUS BLUME.

THE TUBERCLED PHAIUS.

PHAIUS. Sepala libera, subaequalia, patentia v. suberecta. Petala sepalis similia nisi angustiora. Labellum erectum, concavum v. cucullatum, basi in gibbum cavum v. calcar rectum v. curvulum cum columnae basi continuum productum; lobi laterales ampli, erecti, columnam involventes, apice interdum undulati et cum lobo medio confluentes; lobus medius expansus, saepius brevis latusque, patens v. recurvus, margine saepe undulatus. Columna longiuscula, subteres, biangulata v. bialata, apice clavata apoda; clinandrium breve, obliquum, margine sinuatum. Anthera juxta marginem clinandrii affixa, opercularis, incumbens, convexa, distincte bilocularis, loculis imperfecte 4-locellatis; pollinia 8, in quoque loculo 4, obovata v. oblonga, a latere parallele compressa, faciebus per paria applicita, paris inferioris cujusve loculi quam superiora saepius longiora, apice evidentius attenuata; omnia in anthera juniore loculos fere implente connexa. Capsula oblonga, erostris, costis valde prominentibus.

Herbae elatiores, terrestres v. epiphyticae, caulibus in caudice confertis, basi saepe in pseudobulbum brevem incrassatis. Folia ampla v. elongata, plicata, basi angustata v. in petiolum longum contracta, vaginis saepius striatis. Scapi v. pedunculi nunc e caudice oriundi. nunc laterales v. terminales. Flores in racemo plures v. pauci, speciosi, pedicellati, flavi, violacei v. albi. Bracteae nunc parvae lineares nunc majusculae, membranaceae v. herbaceae.

Species ad 15, imprimis Asiaticae tropicae sed ab Africa tropica et insulis Mascarensibus usque ad Australiam, insulas maris Pacifici et Chinam Japoniamque extensae.

Phaius LOUR. *Fl. Coch.* (1790), 529. — BENTH & HOOK. F. *Gen. Plant.*, III, p. 512.

Phaius tuberculosus. Pseudobulbi fusiformes v. cylindracei, articulati, fibrillis foliorum vetustiorum vestiti. Folia anguste lanceolata, acuminata, in petiolnm caulem amplectentem angustata. Racemus 6-8-florus. Bracteae albidae, cymbiformes, oblongae, acuminatae. Sepala patentia, lanceolato-oblonga, acuta, carinata. Petala latiora. Labellum trilobum, ecalcaratum; lobis lateralibus rotundatis undulatis intus pilosis; lobo medio minore quadrato-rotundato v. transverse oblongo, emarginato crispo-undulato; disco labelli basi crinito, deinde calvo, antice lamellis 3 elevatis flexuosis instructo. Columna clavata, incurva, exalata.

Phaius tuberculosus BLUME in *Mus. Lugd. Bat.*, II (1856), p. 181. — ID. *Coll. Orch. Archip. Ind. et Jap.*, p. 13, t. 11, fig. B. — WARN. & WILL. *Orchid Album*, II, t. 91. — *Gard. Chron.*, 1881, pt. 1, p. 341, 342, fig. 67, et p. 428. — ID. 1882, pt. II, p. 565, 566, fig. 101. — ID. 1884, pt. I, p. 520, fig. 104. — *The Garden*, XXVI, p. 46, t. 449. — *Orchidophile*, 1886, p. 93, cum xyl. — VEITCH *Man. Orch.*, pt. VI, p. 13, cum xyl. — *Reichenbachia*, ser. 2, I, p. 7, t. 4. — *Gartenflora*, XL, p. 33, t. 1339.

Limodorum tuberculosum THOUARS *Orch. Iles Afr.*, t. 31.

Bletia tuberculosa SPRENG., *Syst. Veg.*, III (1826), p. 744.

This beautiful Madagascar species was originally figured by THOUARS, in 1822, in his *Histoire particulière des Plantes Orchidées recueillies sur les trois Iles Australes d'Afrique, de France, de Bourbon et de Madagascar*, t. 31, as *Limodorum tuberculosum*. For a long period nothing further seems to have been known about it, though SPRENGEL transferred it to Bletia, and BLUME to Phaius, the latter placing it in a distinct subgenus on account of the absence of a spur to the lip. In September 1862 Dr MELLER met with it in woods about 40 miles from Tamatave and five from the sea, and secured dried specimens, besides making a water-colour sketch, and since then it has been collected by HILDEBRANDT in South Betsileo-land, and the Rev. R. BARON in Central Madagascar.

In the years 1879-80 M. Léon Humblot, a French naturalist and traveller, sent home some plants, one of which passed into the collection of Sir Trevor Lawrence, Bart., M. P., of Burford Lodge, Dorking, where it flowered for the first time in Europe early in 1881. It was exhibited at a Meeting of the Royal Horticultural Society on March 8th., when it was greatly admired, and was awarded a First-class Certificate. Until this period its beauty does not appear to have been recognised, for Reichenbach tells us that the first plants sent home were little appreciated, though afterwards it was eagerly sought after. In 1887 a further importation was received by Messrs F. Sander and C°, of St Albans, through M. Humblot, and at the present time it is well represented in various collections.

At first some difficulty was experienced in its cultivation, as the plants had an unfortunate habit of dwindling away, but the following is given in the *Gardeners' Chronicle* as the method in which it has been successfully treated in the collection of A. Sillem, Esq., at Sydenham. " The plants are placed in a shady corner of the Phalaenopsis house, in a temperature of 65°-70° F., where they have plenty of air, but no cold current. They are kept moist all the year round, and, what is considered as important, they are generally sponged over once a week, as that has been found to be the only means of keeping off the thrips which seem so fond of this plant. The manner in which the plants are potted is peculiar, and it may supply a clue to others, by means of which they may get better success in future. The pots (which must be amply large) are filled two thirds with crocks and charcoal, a layer of peat is placed on this, then the plant is held in position and filled round with living sphagnum moss. When so fixed, the plant is in precisely the same condition as it would be if growing on the surface of a bay, and it is probable that that is its natural position; so potted, it may receive copious waterings with rain water and never get sodden. The chief points to be observed after the plants are potted, are to keep them shady and always moist, and to sponge them frequently, and keep them in a warm but not close place. "

The annexed plate is prepared from materials kindly sent by Sir Trevor Lawrence, Bart., M. P., of Burford Lodge, Dorking.

R. A. Rolfe.



CYPRIPEDIUM EXUL O'BRIEN var. IMSCHOOTIANUM (ROLFE)

PL. CCCXXVII.

CYPRIPEDIUM EXUL O'BRIEN var. IMSCHOOTIANUM ROLFE.

THE EXILE CYPRIPEDIUM, VAN IMSCHOOT'S VARIETY.

CYPRIPEDIUM. Vide *Lindenia,* Engl. ed., vol. I, p. 31.

Cypripedium exul. Herba caespitosa. Folia rigida, suberecta, pauca, elongato-linearia, brevissime bidentata, subtus carinata, 0.23-0.30 m. longa, 2-2.6 cm. lata, viridia. Scapus 15-20 cm. longus, pubescens, purpureus v. viridis. Bractea cucullata, lanceolato-oblonga, glabra, viridis. Ovarium triquetrum, rostratum, pubescens. Sepalum posticum ovato-oblongum, circa 4.5 cm. longum, dorso pubescente, basi et centro læte viridi maculis atropurpureis, margine et apice late albo. Sepala lateralia connata, herbaceo-viridia, ovato-oblonga, cymbiformia, dorso pubescente. Petala lineari-oblonga, apice paullo latiora, subobtusa, flavo-virentia, linea mediana brunnescente ad basin, maculis paucis atropurpureis, margine ciliato. Labellum circa 3 cm. longum, flavescens, venosum, marginibus involutis, extus politum, intus pubescens. Columna 6 mm. longa, subteres, pubescens. Staminodium late elliptico-ovatum, politum, ad basin pubescens, umbone medio ocreo paullo elevato, subtus carinatum, omnino pubescens. Capsula purpurea, pubescens, rostrata, rostro curvulo 4 cm. longo.

Cypripedium exul O'BRIEN, in *Gard. Chron.,* 1892, pt. I, pp. 522-523, fig. 77.

C. insigne var. exul RIDLEY, in *Gard. Chron.,* 1891, pt. II, p. 94.

Var. Imschootianum. Scapus viridis. Bractea brevior. Margo sepali postici angustior, sepalum anticum angustius. Petala angustiora, apice albida.

Var. Imschootianum ROLFE, *supra.*

C. insigne var. Imschootianum L. LIND.; *Journ. d. Orch.,* III, p. 37.

The subject of the present plate is a plant of very great interest. It was at first thought to be a variety of *C. insigne*, but the only one with which it can be compared is the Siamese *C. insigne var. exul*, described by Mr RIDLEY last year. To this it undoubtedly does bear a close resemblance, as will be pointed out presently, but the question suggests itself to me whether that plant is really a variety of *C. insigne* at all. Last autumn I saw a large importation of this particular plant, together with a coloured drawing. In the former I could not see any evidence of *C. insigne*, though the drawing certainly bore a considerable resemblance to that species, yet there were certain discrepancies which I could not understand. And now, having seen a plant which has flowered in the collection of R. I. MEASURES, Esq., of Cambridge Lodge, Flodden Road, Camberwell, it only confirms my suspicion that we have a distinct species, and not a variety of *C. insigne*, to deal with.

C. insigne and its numerous varieties have spreading leaves, while the Siamese plant has more or less erect leaves, which, with other differences, renders the two quite dissimilar; and no one seeing the Siamese plant out of flower would think for a moment of *C. insigne*, but rather of a narrow-leaved form of *C. philippinense*. Comparing the plant with the Nepalese *C. insigne*, Mr RIDLEY observes: — " It is very distinct as a variety, both in form and colouring. The leaves are shorter and

more crowded; the scape shorter, the flower rather smaller than those of the typical form. The general colouring is similar to that of the Nepal plant, but the white margin of the standard is broader, and runs right down to the base; the purple spots are crowded into the middle of the bright apple green centre. The petals and lip resemble much those of the Indian forms, but the lip is more yellow. The shield is different in shape: instead of being cordate, with a notch in the apex, it is almost ovate, with, at the most, a depression at the top. "

The differences which strike me most in the Siamese plant, in addition to the different habit, already pointed out, are: the shorter scape, with smaller flower, of rather more rigid texture; the less undulate dorsal sepal, with the regular white margin all round, and the darker spots confined to the centre of the basal half, where are also a number of darker green lines; the connate lateral sepals considerably larger than the lip; the shorter petals, distinctly spotted at the base; the smaller, stouter lip, which, like the petals, is more yellow in colour, and very glossy; the smaller staminode, and, lastly, the different season of the year when the flowers are produced. Although the dorsal sepal and the central boss of the staminode bear some resemblance to *C. insigne* (the latter character also applicable to *C. villosum* and its variety *Boxallii*), yet the lip is equally near to that of *C. Druryi*, while in general habit it is much nearer to the last named. All things considered, I think it entitled to rank as a distinct species, for which the name of *C. exul* may be retained.

The variety *Imschootianum*, here figured, has all the essential characters of the above, but there are a few differences which may be sufficient to justify the varietal name, though it is too early to say what variations may appear when the imported plants become established in cultivation. The scape is green, more slender, and about six inches high; the bract not half as long as the ovary; the white margin of the dorsal sepal narrower; the lateral sepals narrower; the petals narrower, with much narrower brown band, and white tips. It should be pointed out, however, that some of these characters may not prove constant when the plant becomes fully established. They have been kindly noted for me by Mr J. Weathers, Assistant Secretary, Royal Horticultural Society, from a plant exhibited by Messrs Linden, at a meeting of that Society on April 12 th. last.

It is dedicated to M. Alfred Van Imschoot, of Ghent. A plant was exhibited by Messrs Linden at the March meeting of the Orchidéenne, when it was awarded a First-class Diploma of Honour, unanimously and by acclamation.

From its Siamese habitat I should infer that the plant will require more heat than *C. insigne* and its varieties, and should be grown with *C. villosum* and its allies.

R. A. Rolfe.

Since the above was in type the species has been described by Mr J. O'Brien under the same name as I had proposed for it. I have been able to add this reference, but the text remains unchanged.

R. A. R.



PLEISTERIA LINDENI ROLFE

PL. CCCXXVIII.

PERISTERIA LINDENI ROLFE.

MESSRS LINDEN'S PERISTERIA.

PERISTERIA. Vide *Lindenia*, Engl. ed., vol. I, p. 11.

Peristeria Lindeni. Dense caespitosa. Pseudobulbi ovoideo-oblongi, magni. Folia lanceolata. Racemi pendul:, breves, subsecundi, circa 7-flori. Bracteae lanceolato-oblongae, subobtusae, concavae, 1.3 cm. longae. Pedicelli 5 cm. longi. Sepala elliptico-oblonga, obtusa, 2.5 cm. longa, 1.5 cm. lata, lateralia basi breviter connata. Petala similia, paullo minora. Labellum breviter unguiculatum, trilobum, lobis lateralibus erectis subobliquis submembranaceis late oblongis subobtusis, mesochilio obovato-oblongo, epichilio articulato basi quadrato deinde subcordato-reniformi obtuso, apice reflexo, disco bicarinato. Columna brevis, bicruris, cruribus deflexis linearibus.

Peristeria Lindeni ROLFE, *supra*.

It was as long ago as 1831 that Sir WILLIAM HOOKER established the genus Peristeria, upon the well-known Dove Orchid, the *El Espirito Santo* of the Spaniards, upon a specimen which had been sent to him from Liverpool, by Mrs ARNOLD HARRISON. Five years later came *P. pendula* HOOK., with its pendulous raceme, so different from the habit of the original species. In 1837 Dr LINDLEY described his *P. cerina*, and the following year came *P. guttata* KNOWLES and WESTCOTT, a species which no one appears to have collected again to the present day. Then came a great gap of over forty years during which no new Peristeria was described, but in 1883 *P. ephippium* RCHB. F., appeared with Messrs F. SANDER and C°, of St. Albans. In 1887 *P. laeta* RCHB. F., appeared in the *Hamburgh Botanic Garden*, from no one knows where, and in the following year *P. Rossiana* RCHB. F., was described, from a specimen in the celebrated Italian collection of Signor H. J. Ross. Of these two, the origin seems to be unknown. Upwards of a year ago, *P. aspersa* ROLFE was described and figured in the *Lindenia* (t. 267), from specimens collected by BUNGEROTH on the declivities of the Sierra de Marawaca, one of the most elevated mountains of the Parama chain, in Venezuela, and now Messrs LINDEN have introduced and flowered yet another novelty, bringing the total number up to nine species. It is a native of Tropical America, and is dedicated to its introducers.

P. Lindeni has a pair of strong linear decurved arms to the column, which at once fixes it as an ally of *P. pendula* HOOK., and *P. ephippium* RCHB. F. The former is a native of British Guiana, and is figured in the *Botanical Magazine*, t. 3479, a glance at which will show how distinct is the present species. The latter, which is a native of western South America, is only known from REICHENBACH's description, from which, however, we learn that the shape of the epichile is altogether novel in the genus, being rhomboid and broader at its anterior

retuse end, where it is equally three-lobed, that there is a low transverse triangular body at the summit of the column, and that the flower is destitute of spots. The distinctness of the present species is therefore clearly established, as the other species are characterised by the absence of the pair of fleshy arms to the column.

The raceme is very short, the first one produced bore seven flowers, which were all turned to one side, though whether this character is constant I cannot at present say. The flowers, which are perfectly globular in shape, have the sepals and petals light green, which except at the apex are suffused with dull purple, and covered throughout with deep dark purple spots. The lip is margined and striate underneath with the same colour on a pale ground. This organ is always a highly complex organ in this genus, and the following characters may be noted. The unguis is very short and broad, and the erect, somewhat decurved side lobes about 7 millimetres long, and nearly membranaceous in texture; between them, on the base of the mesochile, are two acute plate-like keels which terminate suddenly below. The mesochile, to the apex of which the epichile, or front lobe, is very delicately hinged, is about equal to the side lobes in length, while the epichile itself is somewhat peculiar in shape. Its lower half is about 8 millimetres broad by the same in length, and thus quite square, while the front half is very suddenly dilated into a subcordate-reniforme body, fully 15 millimetres across, very obtuse, fleshy and reflexed at the front, but more membranaceous at the sides, and with a pair of somewhat curved keels on the very fleshy disc. The arms of the column are linear, and about 3 millimetres long. It is a very interesting addition to the genus.

R. A. Rolfe.

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PART XVII. JUNE 1892.

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ODONTOGLOSSUM PESCATOREI LINDEN var. LINDENIAE HORT.

A. Goossens pinx. *P. De Pannemaeker chrom.*

PL. CCCXXIX.

ODONTOGLOSSUM PESCATOREI LINDEN var. LINDENIAE HORT.

Mr PESCATORE'S ODONTOGLOSSUM, MADAME LINDEN'S VARIETY.

ODONTOGLOSSUM. Vide *Lindenia*, Engl. ed., vol. I. p. 19.

Odontoglossum Pescatorei. Pseudobulbi ovati, subcompressi, diphylli. Folia lorata, acuta, carinata, basi angustata. Panicula erecta, diffusa, multiflora. Bracteae minutae. Flores speciosi. Sepala patentia, elliptico-oblonga, apiculata. Petala subconformia, multo latiora, leviter undulata. Labellum panduratum, lobis lateralibus rotundatis, lobo medio semicirculari apiculato undulato, cristae lamellis lateralibus cartilagineis laceris, lineis duabus elevatis divergentibus interjectis. Columna clavata, alis rotundatis subintegris v. denticulatis.

Odontoglossum Pescatorei LINDEN ex LINDL. in PAXT. *Fl. Gard.*, III (1852-3), p. 83, t. 90. — LINDL. *Fol. Orch., Odont.*, p. 19. — LEM. *Jard. Fleur.*, IV, t. 331. — *Pescatorea*, t. 1. — BATEM. *Monogr. Odont.*, t. 5. — WARNER *Sel. Orch.*, ser. I, t. 25. — *Fl. d. Serres*, t. 1624. — *Gartenflora*, XXIV, p. 195, t. 835, fig. b. — *Ill. Hort.*, XXVIII, p. 7, t. 407. — *Gard. Chron.*, 1884, pt. II, p. 332, fig. 62. — *Id.*, 1885, pt. II, p. 212, fig. 46. — *Id.*, 1888, pt. I, p. 245, fig. 40. — *Id.*, 1889, pt. II, p. 684, 685, fig. 93. — WARN. & WILL. *Orchid Album*, IV, t. 175. — VEITCH. *Man. Orch.*, pt. I, pp. 58,59 cum. xyl. — *Revue Hort. Belge*, 1888, p. 160, fig. 14.

Var. aurantiacum RCHB. F. in *Gard. Chron.*, 1883, pt. I, p. 532.

Var. flaveolum RCHB. F. in *Gard. Chron.*, 1882, pt. I, p. 330.

Var. Germinyanum RCHB. F. ex WARN. & WILL. *Orchid Album*, VII, t. 305.

Var. leucoxanthum RCHB. F. in *Gard. Chron.*, 1887, pt. I, p. 606, fig. 114.

Var. limbosum RCHB. F. in *Gard. Chron.*, 1880, pt. I, p. 168.

Var. Lindenianum L. LIND. & ROD. in *Lindenia*, IV, p. 71, t. 178.

Var. Lowianum RCHB. F. in *Gard. Chron.*, 1884, pt. I, p. 638.

Var. maculatum RCHB. F. in *Gard. Chron.*, 1882, pt. I, p. 182.

Var. purpuratum RCHB. F. in *Gard. Chron.*, 1882, pt. I, p. 588 (in nota).

Var. Schroederianum RCHB. F. in *Gard. Chron.*, 1883, pt. II, p. 588.

Var. splendens DOMBRAIN, *Floral Mag.*, 1865, t. 241.

Var. Veitchianum RCHB. F. in *Gard. Chron.*, 1882, pt. I, p. 588. — VEITCH *Man. Orch.*, pt. I, pp. I. 59,60, cum. xyl. — *The Garden*, XXVI, p. 112, t. 452.

Var. Lindeniae. Sepalis petalisque medio paucimaculatis.

Var. Lindeniae HORT.

Odontoglossum Pescatorei was introduced to cultivation by M. LINDEN, of Brussels, and flowered for the first time in cultivation in his establishment, in the spring of 1853. It was dedicated to M. PESCATORE, of St. Cloud, near Paris, who at that time possessed probably the finest collection of Orchids in Europe. Comparatively little variation was observed for several years, but among the large importations since made some notable varieties have appeared, of which *Veitchianum* and *Schroederianum* are distinguished by the numerous violet blotches on the segments, and *leucoxanthum* by its pure white flowers, whose only colour is the yellow of the lip's crest. Many others have received distinctive names, as the above enumeration will show. The one now figured is characterised by having either a single violet blotch about the centre

of the segments, or two or three smaller ones close together in the same position. It recently flowered with Messrs LINDEN, L'HORTICULTURE INTERNATIONALE, Brussels. R. A. ROLFE.

For a considerable period after its original introduction *Odontoglossum Pescatorei* showed little variation, but at the present time a large number of varieties are known. The present one, though not heavily spotted like the varieties *Veitchianum*, *Schroederianum* and *Lowianum*, is very distinct and pretty, and its purple spotting confined to the centre of the segments sets the flowers off to considerable advantage. It recently flowered out of one of our importations. Pure white forms of *Odontoglossum Pescatorei* are excessively rare, but Baron SCHRÖDER's splendid variety *leucoxanthum* is of this character, as the only colour remaining is the yellow of the disc, which seems quite persistent. It is a most beautiful form, of the purest white, and contrasts most effectively with the spotted forms. It is well known that most of these varieties exist as unique or nearly unique plants, none of them ever occuring in quantity, and their true character only appearing when they flower in cultivation for the first time. Many people have therefore made a practice of buying newly imported plants, in the hope of obtaining something of exceptional merit from them, and in this way many striking forms have been obtained, more particularly in the case of *O. crispum*. One very beautiful form which now and then appears among batches of *O. Pescatorei*, and is frequently not noticed until it flowers, is the beautiful *O.* × *excellens*, now known to be a natural hybrid between this species and *O. triumphans*. Several very distinct forms have appeared, but all of them have the flowers more or less suffused with yellow, sometimes quite bright, at others of a pale sulphur shade, and it may well be that most of the so-called yellow varieties of *O. Pescatorei* are really forms of *O.* × *excellens*.



SACCOLABIUM BELLINUM RCHB. f.

PL. CCCXXX.

SACCOLABIUM BELLINUM RCHB. F.

THE PRETTY SACCOLABIUM.

SACCOLABIUM. Vide *Lindenia,* Engl. ed., vol. III, p. 5.

Saccolabium bellinum. Caulis brevis, robusta. Folia loriformia, medio canaliculata, apice inaequaliter bifida, lobis subacutis. Pedunculus brevis, crassus, floribus paucis corymbosis. Bracteae rotundatae, obtusae, 6 mm. longae. Pedicelli 2.5-3 cm. longi. Sepala patentia, carnosa, obovato-oblonga, obtusa, 1.5 cm. longa, viridi-flava, rubro-purpureo maculata. Petala sepalis similia. Saccus labelli hemisphaericus, lobis lateralibus obsoletis; limbus lunatus, albus, medio aureus rubro maculatus, margine denticulato, disco antice aspero postice spinulis mollibus dense obsito. Columna brevissima, crassa, rostello brevi recurvo.

Saccolabium bellinum RCHB. F. in *Gard. Chron.,* 1883, pt. I, p. 174. — *Id.,* 1887, pt. I, p. 145. — WARN. & WILL. *Orchid Album,* IV, t. 156. — *The Garden,* XXXV, p. 434, t. 700. — *Bot. Mag.,* t. 7142. — HOOK. F. *Fl. Brit. Ind.,* VI, p. 61. — VEITCH *Man. Orch.,* pt. VII, p. 112, cum. xyl.

This charming little species was originally discovered in Burma, by Mr. BOXALL, and introduced by Messrs HUGH LOW & C°, of Clapton. It belongs to the section *Calceolaria*, which consists of about eight species, distinguished by their short stems, lorate, rather flaccid leaves, and short stout peduncles bearing corymbs of flowers, with the sac of the lip very broad and shallow, nearly truncate at the top, and the limb, or front lobe, horizontal or lunate, embracing the sac just below its mouth, and having an erose or denticulate margin, and a smooth or echinate disc. It is much the finest known species of this section, and is like an enlarged and embellished *S. calceolare* LINDL., though there are also various structural differences, in addition to its larger size. The sepals and petals have a greenish-yellow ground colour, with numerous largish reddish-brown spots. The lip is white, with some purple spots on the inside of the sac, and a deep yellow area in the middle of the expanded limb, on which are a few reddish-brown spots. The column is also margined with purple on the sides and base. The margin of the lip is denticulate, and the disc covered with minute spiny processes, which are considerably longer at the base of the expanded limb.

R. A. ROLFE.

Several species of Saccolabium are among the most charming of garden plants, and the one which we present to our readers to-day, though not endowed with particularly brillant colours, certainly presents a combination of tints which is particularly elegant, not to mention the beautifully fringed lip. It is to this section of the genus that the name more particularly applies, as the base of the lip is invariably expanded into a large open sac, yet it is by no means the most showy one, and with the exception of the present species it is only represented

in a comparitively few collections, by *S. acutifolium*, *S. bigibbum* and perhaps *S. calceolare*. *S. bellinum*, however, is a much more showy plant, and deserves a place wherever Saccolabiums are grown. About a dozen species are well known in gardens, of which *S. ampullaceum*, *S. Hendersonianum* and *S. miniatum*, like the one now figured, are small in size and exceedingly beautiful. *S. curvifolium* may also be associated with the last named, as it has erect racemes of bright orange-red flowers, which are very effective. *S. giganteum* and *S. violaceum* are two closely allied species of great beauty, which usually flower during the winter or early spring. *S. Blumei*, *S. guttatum*, the are *S. Berkeleyi*, with one or two other closely allied forms, are sometimes considered by botanists as forms of *Rhynchostylis retusa*, and may well be associated together, as they are amongst the most effective of summer-flowering plants. Lastly may be mentioned the charming little *S. coeleste*, with its beautiful azure-blue flowers. This, too, flowers during summer, and has been referred to *Rhynchostylis*.

The cultivation of Saccolabiums is not difficult, provided two or three essential points are not neglected. Coming, as they do, from one of the hottest regions of the globe, they should be placed in the East-Indian house, where a warm and humid temperature is maintained during the growing season. They are best grown in baskets, with all the light possible, and only moderately shaded during strong sunshine, so as to prevent scorching. They should receive an abundant supply of water during growth, but in the winter the amount should be reduced considerably, though they should never be allowed to become dry. Attention to these points will ensure success in their cultivation.



STANHOPEA MOLIANA ROLFE

PL. CCCXXXI.

STANHOPEA MOLIANA ROLFE.

M. JULES VAN MOL'S STANHOPEA.

STANHOPEA. Vide *Lindenia,* Engl. ed., vol. III, p. 9.

Stanhopea Moliana. Pseudobulbi ovoidei, monophylli, a vaginis increscentibus stipati. Folia longe petiolata, elliptico-lanceolata, acuminata. Racemus pendulus, pauciflorus. Bracteae lanceolato-ovatae, acutae, 4.5 cm. longae, minutissime punctulatae. Pedicelli 7 cm. longi, minutissime punctulati. Sepalum posticum oblongum; sepala lateralia ovata; omnia obtusa, 7 cm. longa. Petala anguste oblonga, subobtusa, undulata, 6.5 cm. longa, 2 cm. lata. Labelli hypochilium sessile, obovato-oblongum, depressum, antice intrusum, latere carinatum, basi exangulatum; mesochilium breve, bicornutum, cornubus falcatis; epichilium latissime ovatum. Columna late alata.

Stanhopea Moliana ROLFE, *supra*.

Several species of Stanhopea are natives of Peru, but the present one is an addition to the list. It was introduced by Messrs LINDEN, L'HORTICULTURE INTERNATIONALE, Brussels, some time ago, and flowered in their establishment at the end of April last. It is allied to *S. Ruckeri* LINDL., and *S. Wardii* LODD., between which two species it is nearly intermediate in the shape of the hypochil, though quite different in other details. It agrees with the former in the open furrow of the hypochil, and in the absence of a pair of teeth near the base, but the furrow is still broader than in that species, especially at the base, where the angles, instead of approaching each other, and terminating behind in a broad tooth, remain wide apart, and are separated by a broad interval, which gives the cavity at the base of the hypochil a totally different shape. Both the species just named are said to be natives of Mexico, though in the case of *S. Ruckeri* this point seems to require confirmation. There is also a slight resemblance to the Peruvian *S. Haselowiana* RCHB. F., which, however, may be readily separated from every other species by the more elongated base of the mesochil. The sepals are pale yellowish white, irregularly spotted with light reddish-purple, some of the spots being ring-like. The petals are white, with larger, deeper-coloured spots, which are mostly ring-like, except near the base. The lip is white, with the under-side and cavity of the hypochil and the front of the epichil densely spotted with minute reddish-purple spots. There are comparatively few spots on the remainder of the lip. The broadly-winged column is yellowish white, with numerous small reddish spots, except near the apex. This very interesting species is dedicated by request to M. JULES VAN MOL, head of the cultural department of L'HORTICULTURE INTERNATIONALE, of Brussels.

R. A. ROLFE.

Novelties in the genus Stanhopea have been decidedly rare during recent years, and the present beautiful species is all the more interesting on this account, for it is an addition to the genus. It was introduced by us from Peru, and flowered for the first time in our establishment in April of the present year. Its flowers are large and delicately coloured, and, like most of its allies, strongly perfumed.

The genus has, fortunately, come more into favour during recent years, and a considerable number of species are now represented in collections. Their flowers are, unfortunately, rather fleeting, but while the last few Orchids are more interesting, as their large flowers are very curious in shape, and very attractively coloured. Among the better known kinds may be mentioned, *S. grandiflora* and *S. eburnea*, with their singular ivory-white flowers, *S. insignis*, the original species of the genus, and one of the best, *S. tigrina*, the largest and handsomest of the group, whose richly coloured flowers have a perfume which has been compared to a mixture of melon and vanilla, *S. Wardii* and *S. oculata*, remarkable for the presence of a pair of eye-like spots at the base of the lip, also *S. Martiana*, *S. devoniensis*, *S. saccata*, *S. Bucephalus* and *S. Shuttleworthii*, all of which are represented in various collections.

The species are of easy culture. They should be placed in shallow baskets, open at the bottom and sides, so that the pendulous flower-scapes may find their way through without injury. A mixture of good fibrous peat and sphagnum forms the necessary compost. During the growing season they require an abundant supply of water and plenty of shade. They will succeed in the East Indian or any other warm house. After their growth is completed they require a good period of rest, during which they should be kept comparatively dry at the roots. Red spider and thrips are the insects to be specially guarded against, as the plants are subject to their attacks, and if not kept in check considerable damage to the leaves may result.



TRICHOPILIA BREVIS ROLFE

PL. CCCXXXII.

TRICHOPILIA BREVIS ROLFE.

THE SHORT TRICHOPILIA.

TRICHOPILIA. Sepala subaequalia, libera, angusta, erecto-patentia. Petala sepalis subsimilia. Labelli unguis columnae adnatus, v. in parte superiore eum arcte involvens, lamina patens, lobis lateralibus parum dilatatis conniventibus v. cum medio undulato continuis; discus nudus v. lamellatus. Columna cum labelli ungue teres, apice ad latera stigmatis biauriculata v. bidentata; clinandrium ample membranaceum, integrum v. trilobum, saepius varie fimbriatum v. ciliato-dentatum. Anthera intra clinandrium opercularis, incumbens, convexa, obtusa v. acuminata, unilocularis; polinia 2, obovoideo-oblonga, exappendiculata, anthera dehiscente stipiti loriformi affixa, glandula parva v. cuneata. Capsula ovoidea v. oblonga, erostris v. brevissime rostrata.

Herbae epiphyticae, pseudobulbis unifoliatis. Folium carnosum, erectum, basi complicatum, angustum v. latiusculum. Scapi e rhizomate breves aphylli, paucivaginati 1-2- v. rarius 3-5-flori. Flores speciosi, pedicellati, sepalis saepe tortilibus. Bracteae parvae.

Species circa 20, Americae calidioris incolae, imprimis in Colombia, America centrali et Mexico vigentes.

Trichopilia LINDL., *Nat. Syst. Bot.*, ed. 2 (1836), p. 446. — BENTH. et HOOK. F. *Gen. Plant.*, III, p. 559.

Pilumna LINDL. *Bot. Reg.*, XXX (1844), *Misc.*, p. 74.

Trichopilia brevis. Pseudobulbi conico-elongati, 8-12 cm. longi. Folia petiolata, elliptico-lanceolata, acuta, 10-16 cm. et ultra longa, 4-5 cm. lata. Scapi subpenduli, 2-3-flori. Bracteae oblongae, subobtusae, 2 cm. longae. Pedicelli 3 cm. longi. Flores speciosi. Sepala subpatentia, late lanceolata, acuta, subrevoluta, 4 cm. longa, 1.5 cm. lata. Petala sepalis subsimilia. Labellum subtrilobum, latissimum, 3.5 cm. longum, 4.8 cm. latum; lobus medius latissime rotundatus, retusus, crispo-undulatus, 2.5 cm. latus; lobi laterales late rotundati, undulati, columnam involventes; discus medio trilamellatus, lamellae laterales prope basin labelli incrassatae, divergentes. Columna brevis, subclavata, ad latera stigmatis bi-auriculata, auriculis integris; clinandrium membranaceum, serrulatum.

Trichopilia brevis ROLFE, *supra*.

This very distinct species of Trichopilia is a native of Peru, whence it was introduced by Messrs LINDEN, L'HORTICULTURE INTERNATIONALE, Brussels, some time ago. It flowered in their establishment for the first time in August 1891. It is readily distinguished from every other species by the very short and broadly campanulate base of the lip, in allusion to which the specific name is given. In this respect it is somewhat anomalous, and as the column is also shorter than usual, and the lip less adnate, its exact affinity is not very obvious. Indeed for botanical purposes I think it must be placed at the end of the genus, for there is no species with which it can be confused. Horticulturally it is a very attractive little plant, its greenish-yellow sepals and petals, with a few large chocolate blotches, contrasting effectively with the broad white lip. The lamellae of the disc are yellow, and there is a faint stain of the same colour on the base of the front lobe of the lip.

R. A. ROLFE.

The graceful little species which we present to-day to our readers is another of our Peruvian introductions, which flowered in our establishment

last August, and is a welcome addition to a group which already contains such charming little plants as *T. marginata*, *T. tortilis*, *T. Galeottiana*, *T. suavis*, *T. fragrans*, and several other well known garden plants. The genus contains about 20 species, though several of them are seldom met with in collections, and the above list comprises the most showy and useful of them. If well grown they are extremely floriferous, and it is recorded that R. Warner, Esq., of Broomfield, exhibited a fine specimen of *T. crispa* — believed to be a variety of *T. marginata* — at the St. Petersburg International Exhibition, in 1869, with upwards of a hundred expanded flowers, which must have been a splendid sight. This species is remarkable for its brightly coloured flowers, *T. tortilis* for its curiously twisted sepals and petals, and *T. suavis* for the hawthorn-like odour of its large and delicately coloured flowers.

The species are not difficult of cultivation. They are best grown in pots, with good fibrous peat and sphagnum, and abundant drainage. They should also be elevated well above the rim of the pot, on account of their deflexed flower-scapes. Care should be taken to avoid over-watering, which except during the period of active growth is highly injurious. They will succeed best in the Mexican house, placed as near the glass as possible, so that the bulbs may become well matured, and thus bloom the more freely. The present species will doubtless succeed under these conditions.

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PART XVIII. JULY 1892.

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PL. CCCXXXIII.

EPIDENDRUM CAPARTIANUM L. LIND.

Dr. CAPART'S EPIDENDRUM.

EPIDENDRUM. Perigonii foliola exteriora patentia subaequalia; interiora aequalia vel angustiora aut rarius atiora. Labellum ungue cum marginibus gynostematis omnino vel partim concretum, limbo integro vel partito, disco saepius calloso, costato vel tuberculato, interdum in calcar ovario adnatum productum. Gynostema elongatum, clinandrio marginato saepius fimbriato. Anthera carnosa 2-4 locularis. Polliniorum caudiculis totidem replicatis.

Herbae Americanae tropicae epiphyticae ; caule nunc basi vel apice pseudobulboso, nunc elongato apice folios, foliiso carnosis vel rarissime striato-venosis, floribus spicatis racemosis corymbosis vel paniculatis terminalibus lateralibusve.

LINN. *Gen.* 1016. — LINDL. *Gen. Plant.*, 1371.

Epidendrum Capartianum. Pseudobulbis elongato-obpyriformibus, mono-diphyllis; foliis coriaceis, lineari-lanceolatis, obtusiusculis, basi conduplicatis caeteris planiusculis; scapo elongato, laevi, inferne nudo, superne 5-6-floro; floribus pro genere magnis, longiuscule pedicellatis; sepalis carnosis, anguste obovatis, obtusis, apice leviter incrassatis, petalis carnosulis, late ovato-quadrangulis, distincte unguiculatis, apice obtusis vel subrotundatis; labello libero vel fere libero, paullo infra medium valde constricto sinubus latis obtusisque, lobis lateralibus magnis suborbicularibus integerrimis, terminali late subrotundato profundiuscule emarginato margine crispulo, disco costis 2 crassis basi apiceque confluentibus munito dein tenuiter breviterque 5-costulato; columna dorso rotundata, antice basi foveolata, apice biauriculata, auriculis latis subquadrangulis antice porrectis.

Patria Brasilia.

Epidendrum Capartianum L. LIND. *supra.*

This interesting species was introduced from Brazil, two years ago, by L'HORTICULTURE INTERNATIONALE, Brussels; we recognized it as a new one, and dedicated it since that time to the renowned practician and Orchidist Dr CAPART, of Brussels, under the name of which we describe it now.

E. Capartianum has pseudobulbs 3-5 inches long, 1 1/2-2 inches across at the base, light green at first, passing into brownish with age, often covered with a white pellicle, formed by the dry old leaves. The leaves, which are one or two in number, borne at the top of the pseudobulbs, are dull green, somewhat thick and leathery, linear-lanceolate, a little obtuse, conduplicate at the base, the remainder plane, somewhat keeled along the median nerve, 9-19 inches long, 1 1/4-1 3/4 inch broad. The peduncle, borne at the top of the bulbs, is somewhat slender, terete, more than 24 inches long, unbranched or sometimes a little branched, green stained with vinous purple, and covered with a number of small whitish oblong dots; it bears five to six flowers on its upper half; the nodes little prominent, distant about 3-4 inches, are clothed with scarious sheaths, triangular, distinctly nerved, the lower ones about 2/5 inch long, the others progressively decreasing, and turning into reddish bracts 1 1/2-2 lines long. The pedicels are spreading, greenish white, somewhat compressed upwards, 2/5 to 3/5 inch long. The

flowers are over 1 3/4 inch across. The ovary, somewhat stained with vinous purple, is obscurely triquetrous, 3/5 inch long. The segments of the perianth are very spreading-reflexed, somewhat fleshy, chiefly the sepals, yellowish-green, strongly stained, except the claw, with vinous-red, forming irregular bandlets blended at the apex. The sepals are rather concave, narrowly obovate, obtuse, somewhat thickened at the apex, especially the lateral ones, which bear at their lower face a small, somewhat mucronate, keel; they are about 11-12 lines long and 5-6 lines broad; the petals are ovate-trapezoidal, a little asymmetrical, distinctly unguiculate, obtuse or roundish at the tip, 10 1/2-11 lines long and 7-8 lines broad. The lip is wholly free, or at the most connate with the base of the column within half a line, 1 inch long, very deeply notched right and left a little beneath the middle, forming two large, roundish, very entire lateral lobes; the front lobe is broader than long, rather deeply emarginate, somewhat wavy on the margin. The disk bears on the level of the lateral sinuses, two strong ribs diverging in their middle into a central deep and narrow cavity, and, in the upper part, five short very tenuous ribs; the base is yellowish white, the remainder white delicately stained with rose, the front lobe marked with seven radiating lines of a very bright purple; the lateral lobes are also marked with several minute lines of the same colour. The column is green, passing into yellow towards the apex of the flat, orange-coloured, anther-case; it is 2/5 inch long, roundish above, with a rather deep frontal lower depression, and at the apex, two quadrangular auricles spreading forward; the margin of the clinandrium is scarcely waved.

From the above characters we may conclude that *E. Capartianum* belongs to the sub-genus *Encyclium* of LINDLEY (lip nearly free; flowers naked; stem swollen into a pseudobulb) and to the section *Hymenochila* (lip three-lobed, with the front lobe membranaceous, notably larger than the lateral ones), as well as to the third group of that section, including the species " with the front lobe of the lip distinctly bilobed. " It is rather closely allied to *E. dichromum* LINDL., *E. Jenischianum* RCHB. F. and *E. Randi* BARB. RODR. in *Vellosia*, I, p. 123 (*E. atropurpureum var. Randi* L. LIND. and ROD., *Lindenia*, II, tab. 49), with respect to the column bearing in front two short wings or auricles at the apex. It is chiefly near the latter, which, however, has the segments of the perianth longer, narrower and acute; the disk of the lip has not the depression mentioned above, and the column bears at the back an obtuse keel. Respecting *E. atropurpureum*, the column of that species has two wings extending from the base to the apex, instead of being winged only at the apex.

L. L.



MILTONIA PHALAENOPSIS NICHOLSON

PL. CCCXXXIV.

MILTONIA PHALAENOPSIS NICHOLSON.

THE MOTH PHALAENOPSIS.

MILTONIA. Sepala subaequalia, patentia, libera v. lateralia basi brevissime connata. Petala sepalis similia v. paullo latiora. Labellum ad basin columnae affixum, arcte sessile v. ungue brevissimo latoque instructum, a basi patens, amplum, indivisum, disco basi leviter lamellato. Columna brevis, apoda, apice v. antice varie biauriculata v. bialata; clinandrium breve, truncatum v. antice bilobum, v. membranaceo-dilatatum bi-trilobum. Anthera terminalis, opercularis, incumbens, convexa, unilocularis v. imperfecte bilocularis; pollinia 2, cerea, ovoidea, integra v. sulcata, inappendiculata, anthera dehiscente stipiti obovato v. oblongo affixa, glandula squamiformi.

Herbae epiphyticae, caulibus brevissimis pseudobulbo uni-bifoliato terminatis. Folia coriacea, oblonga v. elongata, basi parum contracta. Scapi sub pseudobulbis axillares, simplices, validi, uni-biflori v. laxe pluriflori. Flores speciosi, longiuscule pedicellati. Bracteae nunc longae spathaceae, nunc abbreviatae v. minimae.

Species ad 15, Brasiliae, Peruviae, Colombiae et Americae centralis incolae.

Miltonia Phalaenopsis. Pseudobulbi ovoideo-oblongi, compressi. Folia linearia, acuta. Scapus biflorus. Bracteae ovato-lanceolatae. Sepala oblongo-lanceolata, acuta. Petala obovata obtusa. Labellum late panduratum, lobo medio late obcordato, lobis lateralibus rotundatis, disco basi carinato, carina apice bicalloso. Columna brevissima.

Miltonia Phalaenopsis NICHOLSON *Dict. Gard.*, II (1886), pp. 367, 369, fig. 571. — VEITCH *Man. Orch.*, pt. VIII, pp. 102, 103, cum xyl.

Odontoglossum Phalaenopsis LINDEN et RCHB. F. in *Bonplandia*, II (1854), p. 278. — *Pescatorea*, t. 44. — RCHB. F. in *Walp. Ann.*, VI, p. 844. — WARN. *Sel. Orch.*, ser. I, t. 30. — BATEM. *Monogr. Odont.*, t. 3. — *Ill. Hort.*, III, t. 109. — ID., XXVIII. p. 55, t. 417 (*var. luxurians*).

R. A. ROLFE.

Miltonia Phalaenopsis was originally introduced by M. LINDEN, he having received it from one of his collectors, M. SCHLIM, in 1850. It was described in 1854 in *Bonplandia*, and afterwards figured in *Pescatorea*, under the name of *Odontoglossum Phalaenopsis*, which was given by REICHENBACH. Several species formerly placed in the genus Odontoglossum by this author have since been transferred to Miltonia; notably *Odontoglossum vexillarium*, *O. Roezlii*, and *O. Warscewiczii* (*Miltonia Endresii* NICHOLSON), species closely allied to the one we are now occupied with.

M. Phalaenopsis was discovered by SCHLIM in New Granada, " in the damp and shady forests of Aspasica, at an elevation of about 5000 feet above the sea-level. " M. LINDEN, in his description in *Pescatorea*, states that it is a terrestrial species, covering the rocks and growing readily among mosses in these damp and shady localities. A single example sometimes forms a clump of over a yard across, and is literally covered with flowers, which begin to expand about April, and are successively produced until July. "

M. Phalaenopsis has narrow and remarkably grass-like leaves, ovoid pseudobulbs, somewhat compressed, and of a very pale green. Its flowers, though without the shape and quality of certain forms of *M. vexillaria*, are extremely graceful; the sepals and petals are spreading, flat, and pure white, and the lip

four-lobed, with the basal lobes short, about half as long as the sepals, and the front lobes expanded and nearly square. The front lobe bears a large rose-purple blotch which extends for about half its length, and is prolonged in front in several narrow lines, and the basal lobes are spotted and striped with the same colour.

In the variety here figured these colours are exceptionnally brilliant, and the blotch is larger than in the type.

This charming variety, which may be considered as a cool-temperate or Mexican house plant, flowered last spring in the collection of M. Finet, of Argenteuil, near Paris, one of the best cultivators of Orchids, and one of the most ardent and skilful connoisseurs in France.

What we have stated above respecting the situation in which *Miltonia Phalaenopsis* grows in a wild state will indicate the conditions under which it should be cultivated in our European houses. A well-glazed house, sheltered from the sun, a medium temperature, and especially an atmosphere well charged with humidity, will suit it perfectly. The plants should be well surrounded with the compost, and should receive abundant waterings during their period of growth.

During the months of October to January the plants should be at rest, and require but little water. They will begin to grow again about the middle of January, and the flowers are produced during April and May, the same period as in their natural state, which circumstance is interesting to note.

L. L.



ODONTOGLOSSUM × EXCELLENS nothosubsp. E. van DELLENSE [01]

PL. CCCXXXV.

ODONTOGLOSSUM × EXCELLENS RCHB. F. var. DELLENSE ROLFE.

THE EXCELLENT ODONTOGLOSSUM, " THE DELL " VARIETY.

ODONTOGLOSSUM. Vide *Lindenia*, Engl. ed., vol. I, p. 19.

Odontoglossum × *excellens*. Pseudobulbi subcompressi, ovoideo-oblongi. Folia lanceolato-linearia. Scapi suberecti, arcuati, multiflori. Sepala lanceolata acuminata. Petala sepalis similia v. paullo latiora. Labellum unguiculatum, obovato-oblongum, obtusum, crispo-undulatum, basi subcordatum, cristae lamellis lateralibus cartilagineis denticulatis lineis duabus elevatis divergentibus interjectis.

Odontoglossum × *excellens* RCHB. F. in *Gard. Chron.*, 1881, pt. II, p. 426. — Id. 1885, pt. II, pp. 239, 241, fig. 51. — *The Garden*, XXI, p. 216, t. 330. — *Reichenbachia*, ser. 2, vol. I, p. 41, t. 69. — ROLFE in *Gard. Chron.*, 1889, pt. I, p. 650. — ID., 1891, pt. I, p. 754.

Var. eugenes RCHB. F. in *Gard. Chron.*, 1888, pt. I, p. 522 (in nota). — *O. eugenes* VEITCH *Man. Orch.*, pt. I, p. 73. — WARN. & WILL. *Orchid Album*, VIII, t. 355.

Var. chrysomelanum RCHB. F. in *Gard. Chron.*, 1888, pt. I, p. 522.

Var. maculatum RCHB. F. in *Gard. Chron.*, 1888, pt. I, p. 522 (in nota). — *O. Vuylstekeanum var. maculatum* RCHB. F. in *Gard. Chron.*, 1884, pt. 2, p. 584.

Var. dellense. Sepala et petala valde maculata.

Var. dellense ROLFE supra.

Odontoglossum × *dellense* O'BRIEN in *Gard. Chron.*, 1891, pt. I, p. 521. — ROLFE in LIND. *Journ. d. Orch.*, II, p. 70.

Odontoglossum × *excellens* originally appeared in the collection of Sir TREVOR LAWRENCE, Bart., M. P., at Burford Lodge, Dorking, in 1881, from an importation made by Messrs HUGH LOW & C°, of Clapton. At first it was thought to be a yellow variety of *O. Pescatorei*, but REICHENBACH thought it might be a natural hybrid between this species and *O. tripudians*, while others soon afterwards suggested *O. triumphans* as the second parent. Its hybrid origin and parentage, however, are no longer matter for speculation, as the plant has been artificially produced in the establishment of Messrs JAMES VEITCH & SONS, of Chelsea, by crossing *O. Pescatorei* with the pollen of *O. triumphans*.

This is the second Odontoglossum whose origin has been proved by direct experiment, as a form of *O.* × *Wilckeanum* was previously raised by M. LEROY, in the collection of Baron EDMOND DE ROTHSCHILD, of Armainvilliers, near Paris. In this case *O. crispum* and *O. luteopurpureum* are the parents, as had long been supposed. *O.* × *excellens*, like most other hybrids, is extremely variable, both in shape and colour, sometimes the characters of one parent preponderating, sometimes those of the other, and several varieties have received distinctive names. The one now figured was described by Mr J. O'BRIEN, as × *O. dellense*, under the belief that it was a natural hybrid between *O. Pescatorei* and *O. praenitens* (*Bot. Mag.*, t. 6229). The latter species, however, is totally different in the

characters of the lip and crest, and could not possibly have participated in the parentage of the present form, which only differs from *O.* × *excellens* in having the sepals and petals much more spotted than usual. The details of the lip and column wings are absolutely identical. It is a very handsome variety, which appeared in the celebrated collection of Baron Schröder, The Dell, near Windsor.

R. A. Rolfe.

RE-POTTING OF CYPRIPEDIUMS.

Cypripediums, as the other Orchids, do not require to be re-potted before they become too large for the pots in which they are grown, unless in exceptional cases, when the roots are unhealthy, or the compost become sour by some accident.

The compost should be formed of fibrous peat and sphagnum in nearly equal parts. Having prepared the materials in sufficient quantities, and having placed it in baskets near at hand, we commence the re-potting. The pot should be just of the necessary size, generally from half to three-quarters of an inch larger than the preceding one. It is best not to choose them too large, though the evils arising from this proceeding are, in reality, less perceptible in the case of Cypripedium than in that of other genera.

The drainage should first be placed in the receptacle. The pieces of broken potsherds, well cleaned and carefully washed, are placed at the bottom of the pot until nearly half full, sometimes less, which depends on the quantity of roots which the plant under treatment possesses.

It is evidently not advisable to unduly restrict the roots, and account should be taken of their development in each species or individual under treatment.

A further reason which should serve to guide us in giving a more abundant drainage to plants possessing but few roots, is, that these are more delicate, and greater care should be taken to prevent the loss of any roots from stagnant humidity.

When prepared to receive the plant we proceed to remove it from its former pot, an operation which occasionally presents some difficulties. Frequently the roots cling to the sides of the pot, and are not easily detached, in which case it is better to sacrifice the pot, for otherwise we risk bruising the roots and considerably enfeebling the plant. Take a hammer and break the pot carefully to pieces, after which the roots are detached more easily, and if some still stick to the broken pieces, these may be conserved as an integral part of the ball of compost.

Having removed the plant, the surface of the old compost should be summarily cleaned by removing every portion which is not absolutely fresh and

(*To be continued on p.* 52.)



STANHOPEA EBURNEA LINDL.

PL. CCCXXXVI.

STANHOPEA EBURNEA LINDL.

THE IVORY-LIKE STANHOPEA.

STANHOPEA. Vide *Lindenia,* Engl. ed., vol. III, p. 9.

Stanhopea eburnea. Pseudobulbi conico-ovoidei, monophylli. Folia petiolata, late elliptico-lanceolata, breviter acuminata. Scapi penduli, biflori, vaginis ovatis acutis tecti. Bracteae ovato-oblongae, acutae, circa 4 cm. longae. Ovarium 5-10 cm. longum. Sepalum posticum oblongo-lanceolatum, subobtusum, circa 7 cm. longum; sepala lateralia semiovato-oblonga, caeteris similia. Petala lineari-lanceolata, sepalis angustiora. Labellum lineari-oblongum, non medio constrictum, hypochilio pone basin bicorni, epichilio ovato-oblongo obtuso, mesochilio duplo longiori solido plano-convexo antice truncato-bidentato. Columna 6-7 cm. longa, apice bialata.

Stanhopea eburnea LINDL. *Bot. Reg.,* XVIII (1832), t. 1529. — ID. *Gen. & Sp. Orch.*, p. 158. — *Bot. Mag.,* t. 3359. — LINDL. *Fol. Orch. Stanhop.*, p. 8. — *Ill. Hort.,* XIV, t. 531 (*var. spectabilis*). — RCHB. F. in *Walp. Ann.*, VI, p. 584. — ID., *Xen. Orch.,* I, p. 117.

S. grandiflora LINDL. *Gen. & Sp. Orch.*, p. 158. — ID. *Fol. Orch. Stanhop.*, p. 7. — *Maund Botanist,* IV, t. 176.

Ceratochilus grandiflorus LODD. *Bot. Cab.,* XV, t. 1414.

Stanhopea eburnea was originally described and figured in the *Botanical Register*, in 1832, from the rich collection of JAMES BATEMAN, Esq., of Knypersley Hall, near Congleton. It was said to be a native of Rio Janeiro, and to have been originally imported by Messrs LODDIGES, of Hackney. It was compared with the *Ceratochilus grandiflorus* of the *Botanical Cabinet*, a native of Trinidad, from which it was thought to differ in the size of the flowers and certain details of the lip, which, however, REICHENBACH and others have shown cannot be relied on, and the two plants have therefore been united as forms of one and the same species. As thus understood, the species appears to have a rather wide range, for it also occurs in Surinam, British Guiana and Venezuela. It is said to be common in the neighbourhood of the Demerara River. It is very easily distinguished from every other species by the form of the lip. Its nearest ally is the Nicaraguan *S. cirrhata* LINDL., next which it was placed by REICHENBACH, when monographing the genus. *S. cirrhata*, however, has far smaller flowers, with a very different lip and column.

R. A. ROLFE.

(*Continued from page* 50.)

wholesome. Then place it on the potsherds, after having lightly covered them with a layer of sphagnum, which is intended to prevent the soil from being carried down among the potsherds by watering.

In order to fix the plant firmly and fill the pot, we proceed to add the necessary quantity of compost, by small pieces, between the ball of soil and the pot, pressing it moderately firm, so as to avoid bruising the roots.

The plant should not be sunk too deep in the pot, nor too much elevated above the rim. Cypripediums, which require plenty of humidity, may be sunk a little deeper than other Orchids; and it is sufficient that the collar rests about half an inch above the margin of the pot. Under these conditions the upper roots run no risk of becoming dry.

The repotting being finished we again cover the surface of the compost with a layer of Sphagnum of sufficient size, so that the plants always preserve a condition of freshness.

(*Le Journal des Orchidées,* vol. II, p. 47.)

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